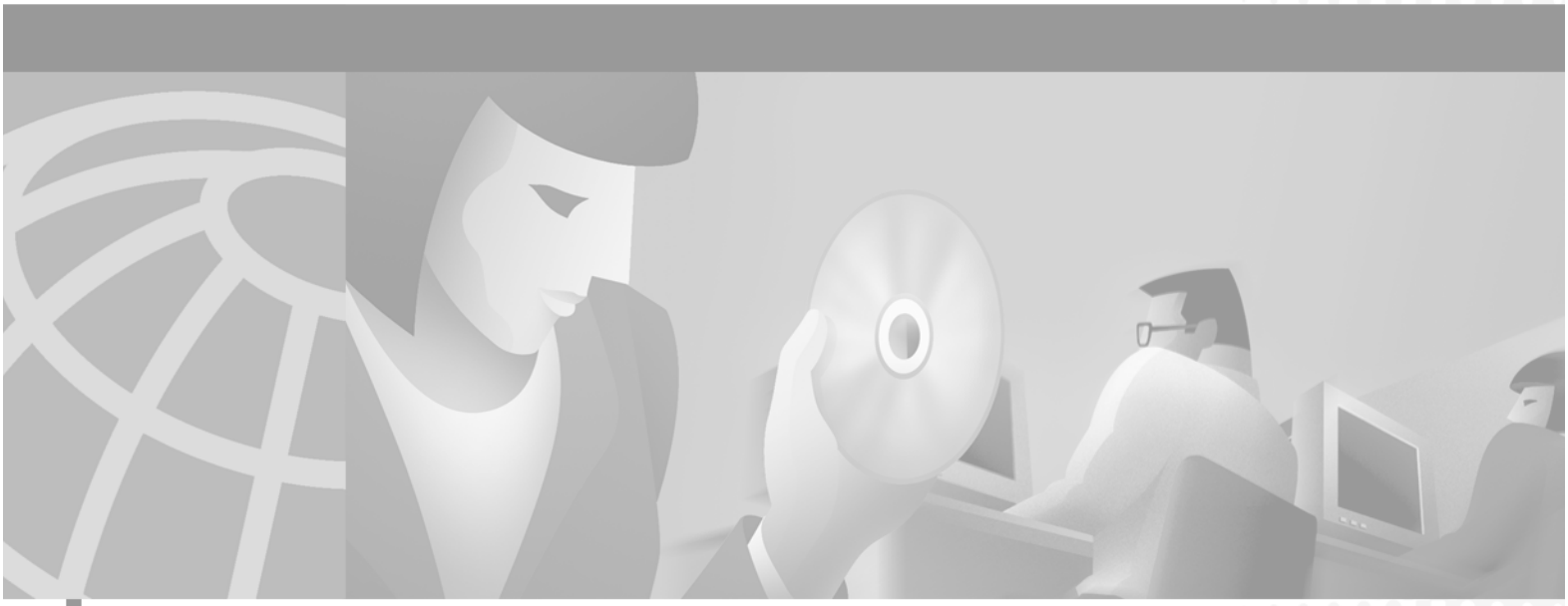

Cisco ONS 15200 Web Interface Software User Manual

Software Release 1.1
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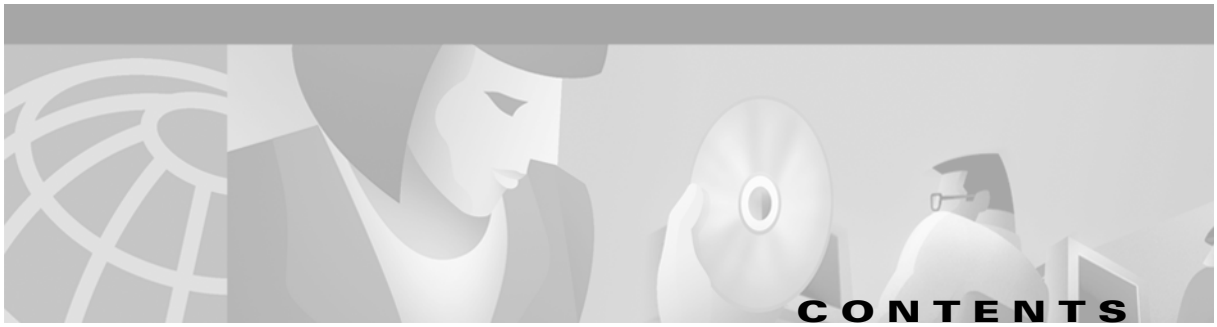
Cisco ONS 15200 Web Interface Software User Manual



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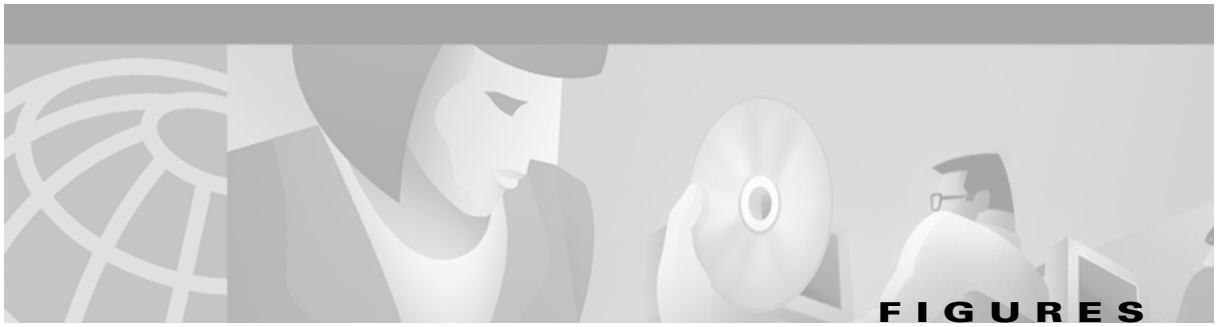
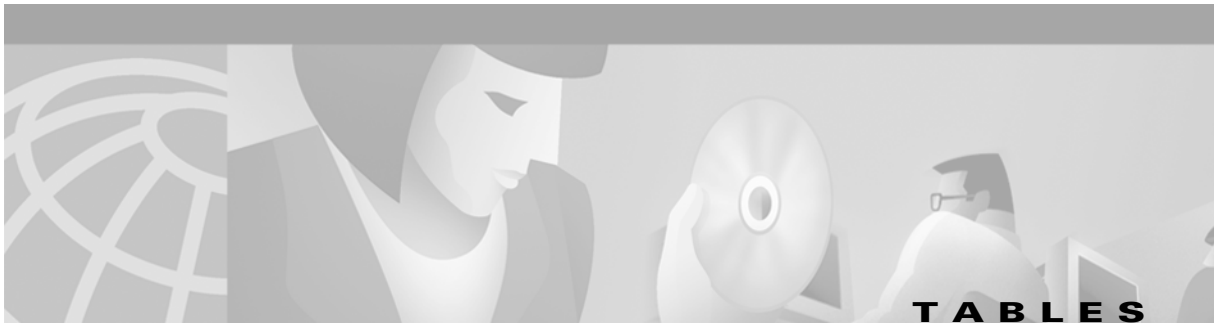


FIGURES



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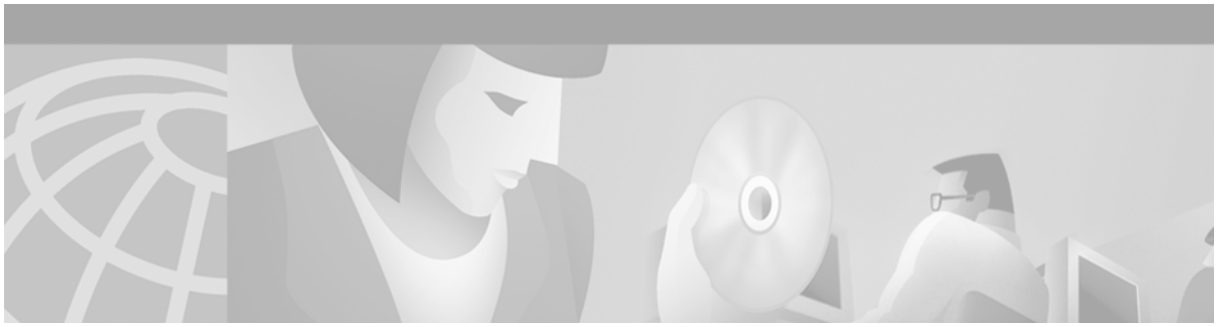

About this Manual

The *ONS 15200 Web Interface Software User Manual* provides the setup process for the Cisco ONS 15200 web-based interface and describes how to use the software to view information about the ONS 15200. This publication is intended for use by personnel responsible for system administration.

Manual Structure

The manual is organized as follows:

- Chapter 1, “Software Overview,” provides an overview of the software features.
- Chapter 2, “Getting Started,” describes how to begin using the ONS 15200 web-based interface application.
- Chapter 3, “ONS 15200 Configurations,” describes how to view module and system configuration information.
- Chapter 4, “Alarms and Events,” describes how to view system-level alarm information.
- Chapter 5, “Administrator Functions,” describes how to use the Cisco ONS 15200 web interface to perform administrator functions on the Cisco ONS 15200 system.
- Chapter , “Acronyms,” lists and defines acronyms and other abbreviations used in the manual.

Related Documentation

For additional software information, refer to the following documents:

- *Cisco ONS 15200 Maintenance Manager Installation and Operations Guide*
- <CommandItalic>Cisco ONS 15200 Command Line Interface Manual

Applicable Standards

Cisco ONS 15200 system design, construction, and performance adhere to the following standards:

CFR 1040.10

EN 60 950

ETS 300 019-1-1 (1992), class 1.1

ETS 300 019-1-2 (1992), class 2.3
ETS 300 019-1-3 (1992), class 3.1
ETS 300 132-2 (1996)
ETS 300 253 (1995)
ETS 300 386-1 (1994)
LVD 73/23/ECC
FCC Part 15
IEC 60825-1 (1993)
IEC 60825-2 (2000)
ITU-T G.652 (04/1997)
ITU-T G.655 (04/1999)
ITU-T G.692 (10/1998)
ITU-T G.783 (10/2000)
ITU-T G.825 (03/2000)
ITU-T G.872 (02/1999)
ITU-T G.957 (06/1999)
ITU-T G.958 (11/1994)
ITU-T G.972 (10/2000)
Telcordia GR-1089-CORE (01/1999)
Telcordia GR-63-CORE (10/1995)
Telcordia SR-3580
UL 1950

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The following sections explain how to obtain documentation from Cisco Systems.

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Translated documentation is available at the following URL:
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The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

http://www.cisco.com/tac

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

http://www.cisco.com/register/

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

http://www.cisco.com/tac/caseopen

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

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Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

CHAPTER 1

Software Overview

This chapter provides a general overview of the Cisco ONS 15200 web interface.

To use the Cisco ONS 15200 web-based interface, you need a PC with a web browser (Internet Explorer 5.5 or higher, or Netscape 4.5 or 4.7), a 10BaseT Ethernet interface, and IP access. For the PC requirements refer to the vendor documentation.

1.1 Features

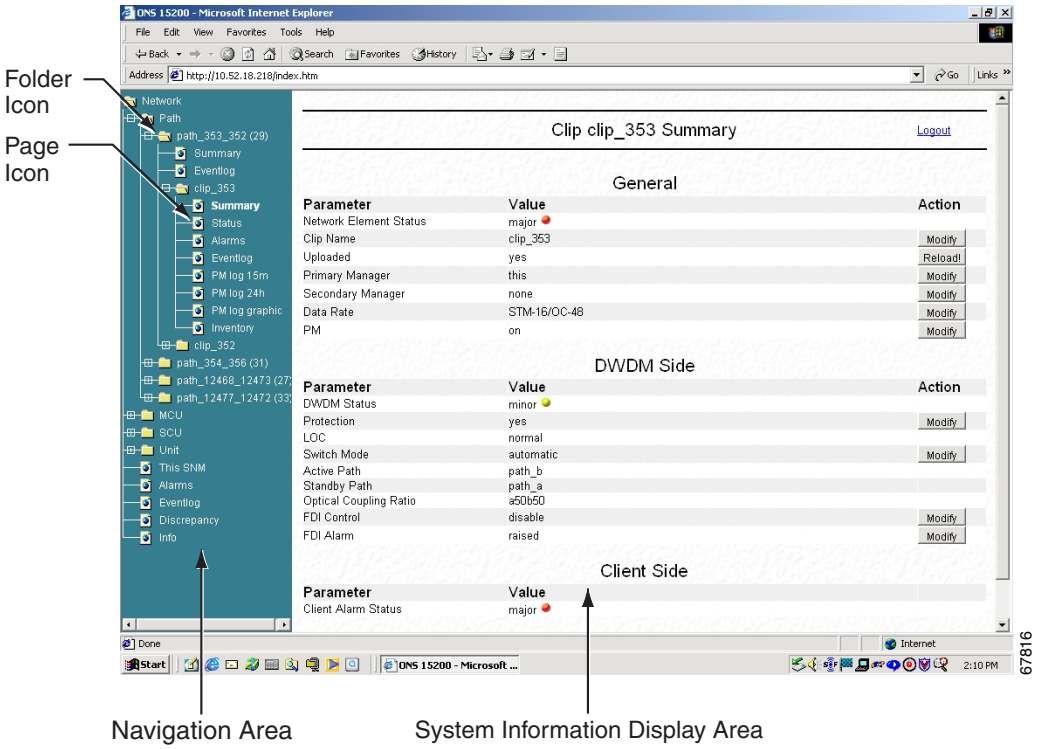
The following list describes the features of the ONS 15200 web interface:

- Remote system visibility—The ONS 15200 web interface can be used at any computer connected to the ONS 15200 system.
- Admin privileges—Two parameters, user and system, can be modified by an administrator user in the ONS 15200 web interface.
- Write privileges—Some parameters, such as the data rate, can be modified by an operator user in the ONS 15200 web interface.
- Watching privileges—All parameters like the same as the operator user, can be seen by a guest user in the ONS 15200 web interface.
- Runs in a standard web browser—The ONS 15200 web interface runs on Internet Explorer 5.5 or higher or Netscape 4.5 or 4.7.
- Requires no local software—The ONS 15200 web interface is Java-based and runs in the browser. All necessary software is stored on the Network Control Board (NCB) module instead of the local computer.
- Password protected—The ONS 15200 system is password protected.
- Real-time—The ONS 15200 web interface provides a real-time view of the network. System changes are reported immediately.
- Ethernet connection—The ONS 15200 web interface connects to the ONS 15200 system through an Ethernet connection. The client computer can be connected directly to the NCB module or indirectly through a LAN or WAN connected to the ONS 15200 system.

1.2 Main Screen

The ONS 15200 web interface runs in a Java-enabled browser. The screen (window) is divided into two sections (panes). Use the navigation area on the left of the screen to view the ONS 15252 Multichannel Unit (MCU), the ONS 15201 Single-Channel Unit (SCU), installed modules, event logs, and alarm logs. The display area on the right of the screen shows information specific to each MCU, SCU, module, or log. See Figure 1-1 for an example of the ONS 15200 web interface window.

Figure 1-1 Main screen of the ONS 15200 web interface software program



1.3 Starting the ONS 15200 Web Interface

You can make a direct connection to the system, through an ONS 15252 MCU, or an indirect connection, through customer equipment. For further information see the "Connect Directly to the ONS 15252 MCU" procedure on page 2-1 and the "Connecting with a LAN or WAN" section on page 2-2. When the computer is configured and connected, perform the following procedure.

Procedure: Start the Web Interface Software

Step 1 In the **Address** bar of the Internet Explorer or in the **Location** bar of Netscape, type the URL or IP address of the Cisco ONS 15200 System to be controlled. Press **Return**.

Step 2 The system will reply with the screen shown in Figure 1-2.

Step 3 Type your user name (with operator rights or guest rights) and password as shown in Figure 1-2.

Step 4 The system replies with the welcome screen shown in Figure 1-3.

Figure 1-2 Login screen of the ONS 15200 web interface software program

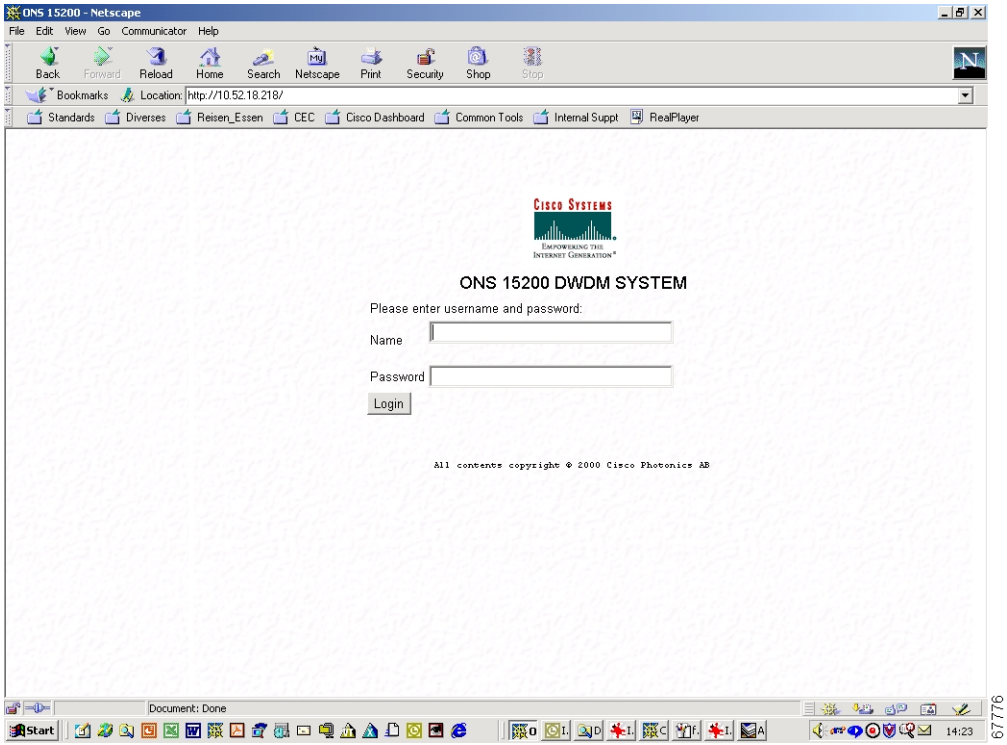
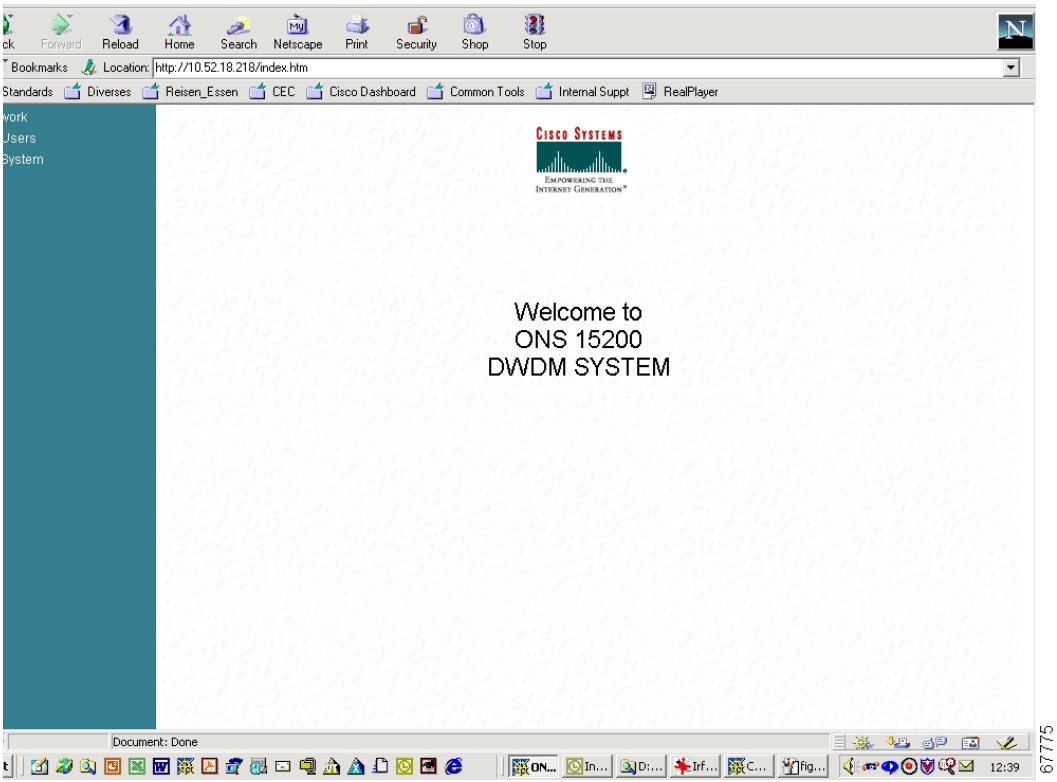


Figure 1-3 Welcome screen for the ONS 15200 web interface software program

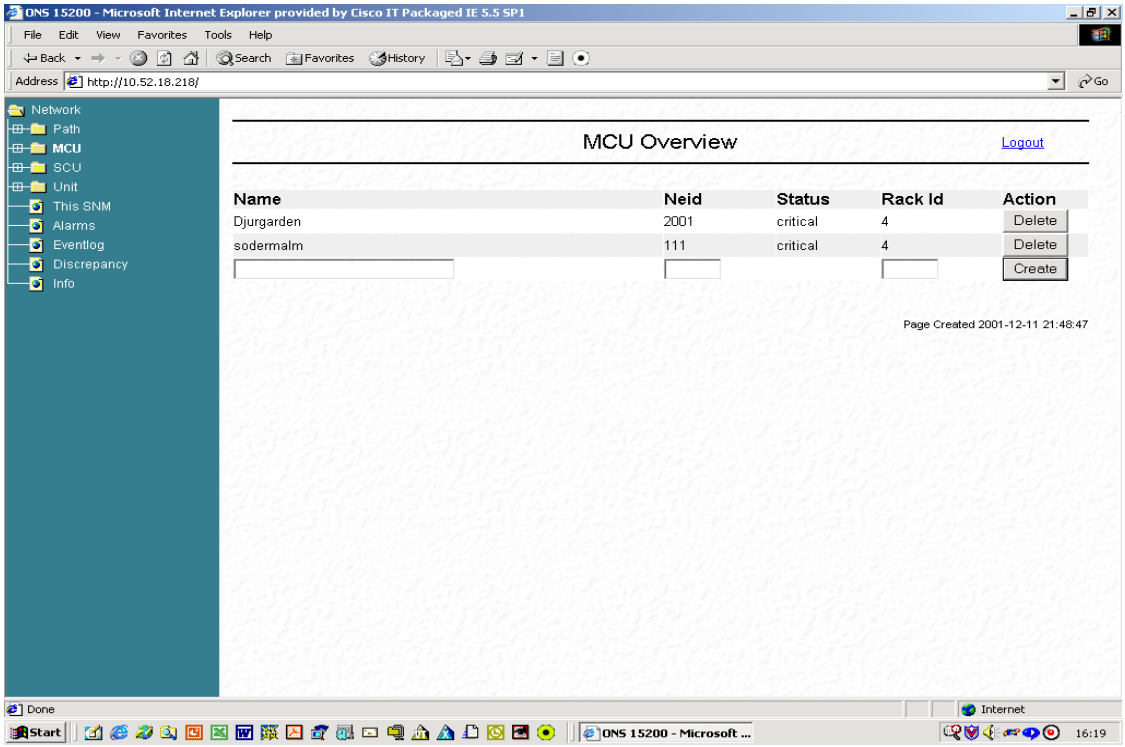


1.4 Navigation

Click the folder or page icons in the navigation area to navigate to different screens. Click a folder to expand it to display pages and subfolders. Click a page to display the relevant information in the system information display area.

Click **MCU** to display an MCU overview with all current MCUs (Figure 1-4). Click the **MCU** or **SCU** folder to display subfolders. Click the name of the subfolder to view a graphical representation of the network element (NE). Click a module in the NE to display summary information for the selected module.

Figure 1-4 MCU Overview screen in the ONS 15200 web interface software program

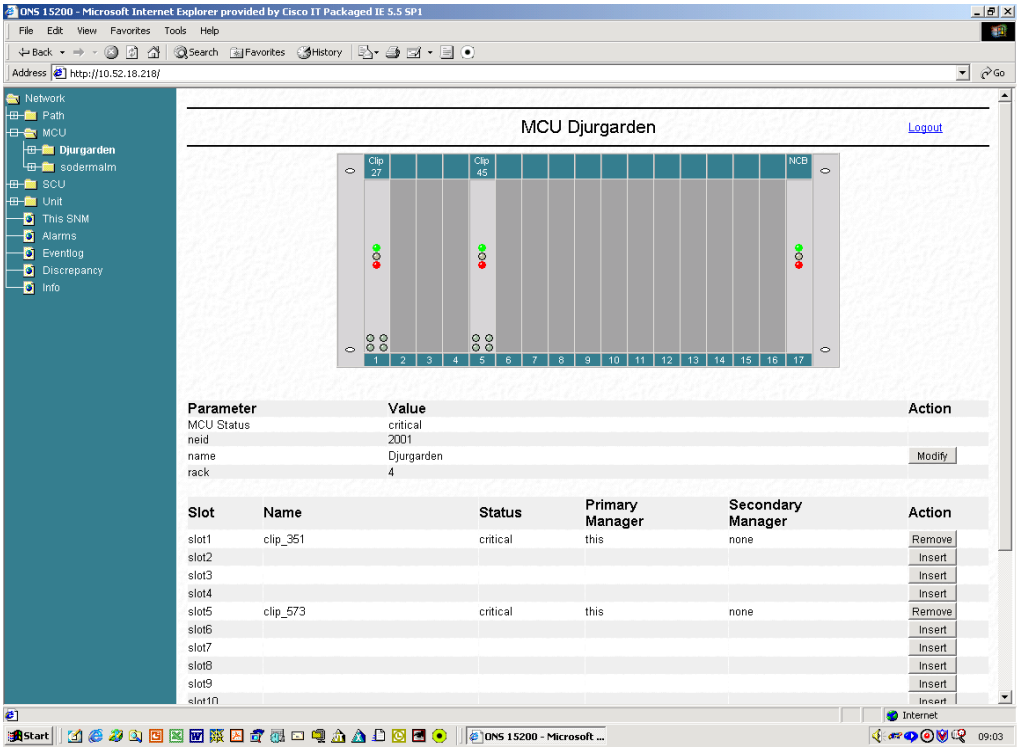


1.5 Network Information

This section describes how to display network information and interpret the messages and measurements.

Figure 1-5 displays a graphical overview of an MCU and includes a short description of each installed module.

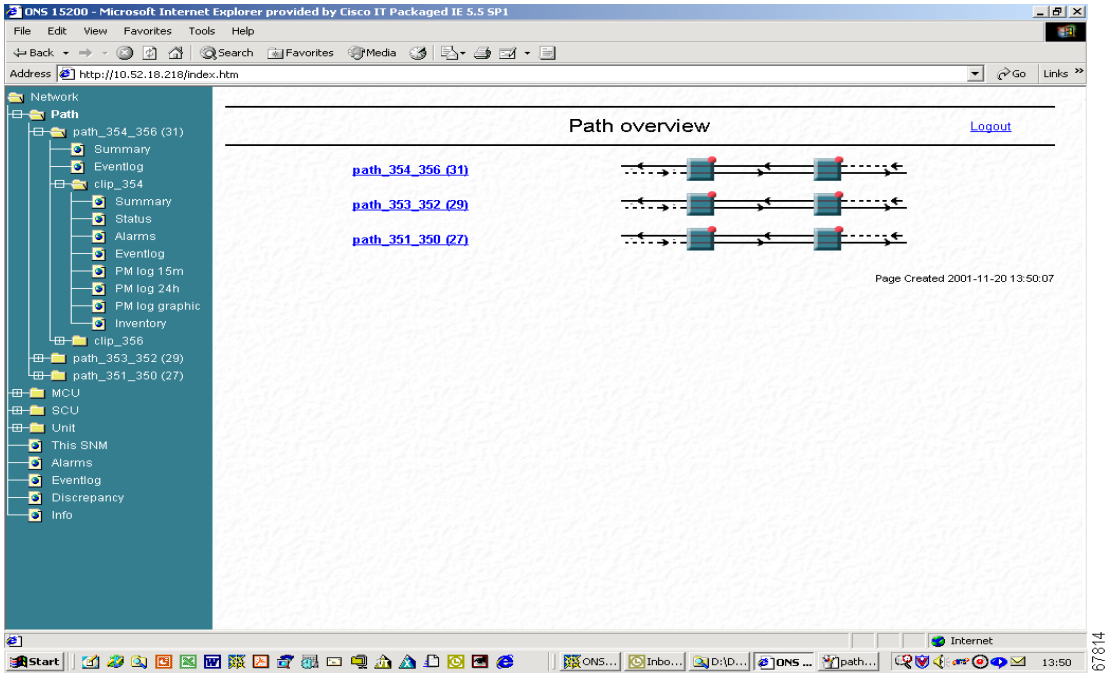
Figure 1-5 MCU graphical overview screen in the ONS 15200 web interface software program



1.5.1 Path Overview

The Path Overview screen provides a graphical overview of all paths between the network elements in an ONS 15200 system (Figure 1-6). Icons display the working path, protect path, network elements, and alarms. Icons on the Path Overview screen provide shortcuts to summary and status screens.

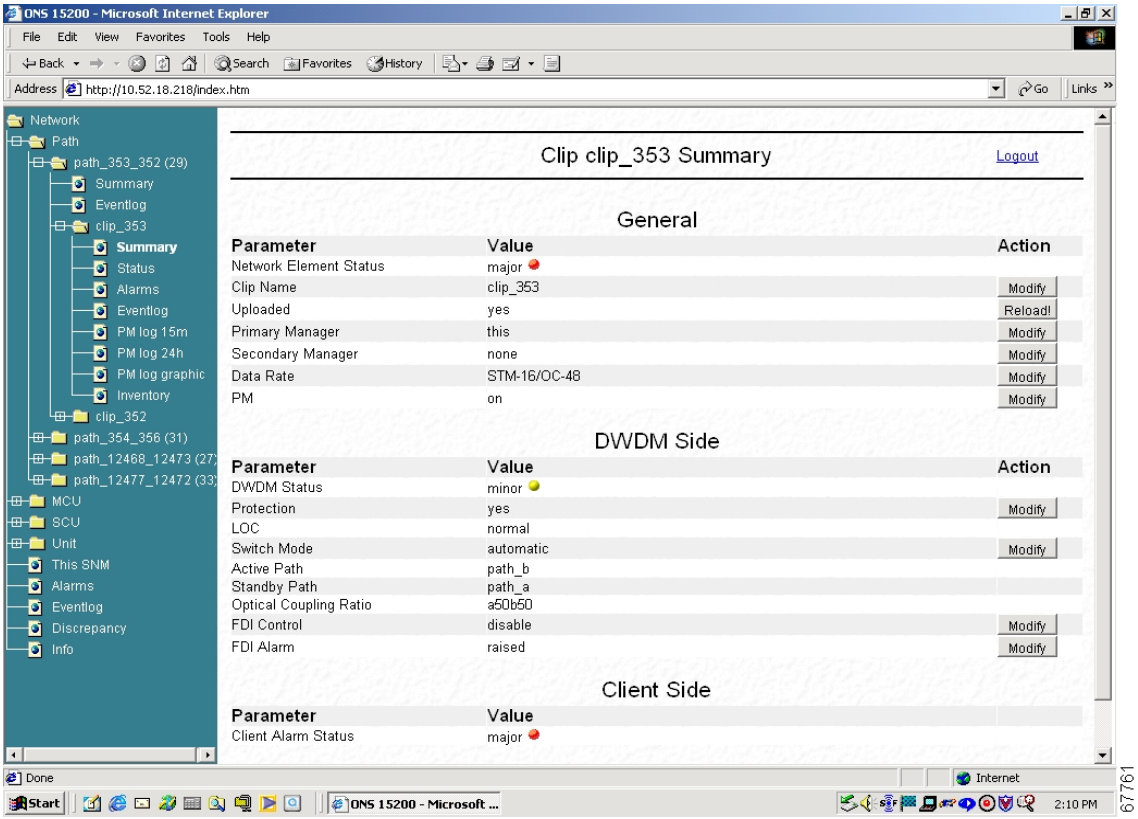
Figure 1-6 Path overview screen in the ONS 15200 web interface software program



1.5.2 CLIP Summary

The information available on the CLIP Summary screen varies depending on the configuration of the associated Client Layer Interface Port (CLIP) module (protected or unprotected). See Chapter 3, "ONS 15200 Configurations" for more information about each parameter. Figure 1-7 shows the CLIP Summary screen for a protected CLIP module.

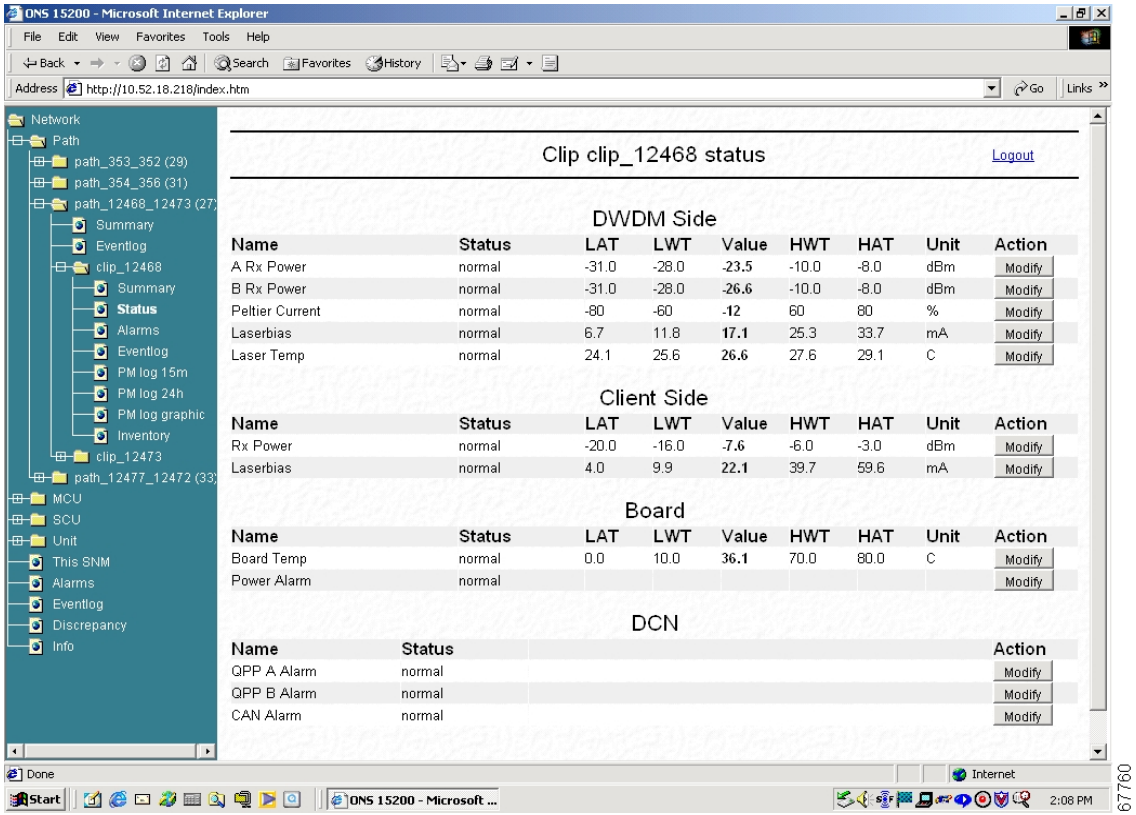
Figure 1-7 CLIP Summary screen (protected) in the ONS 15200 web interface software program



1.5.3 CLIP Status

The information available on the CLIP Status screen varies depending on the configuration of the associated CLIP module (protected or unprotected). See Chapter 3, “ONS 15200 Configurations” for more information regarding each parameter. Figure 1-8 shows the CLIP Status screen for a protected CLIP.

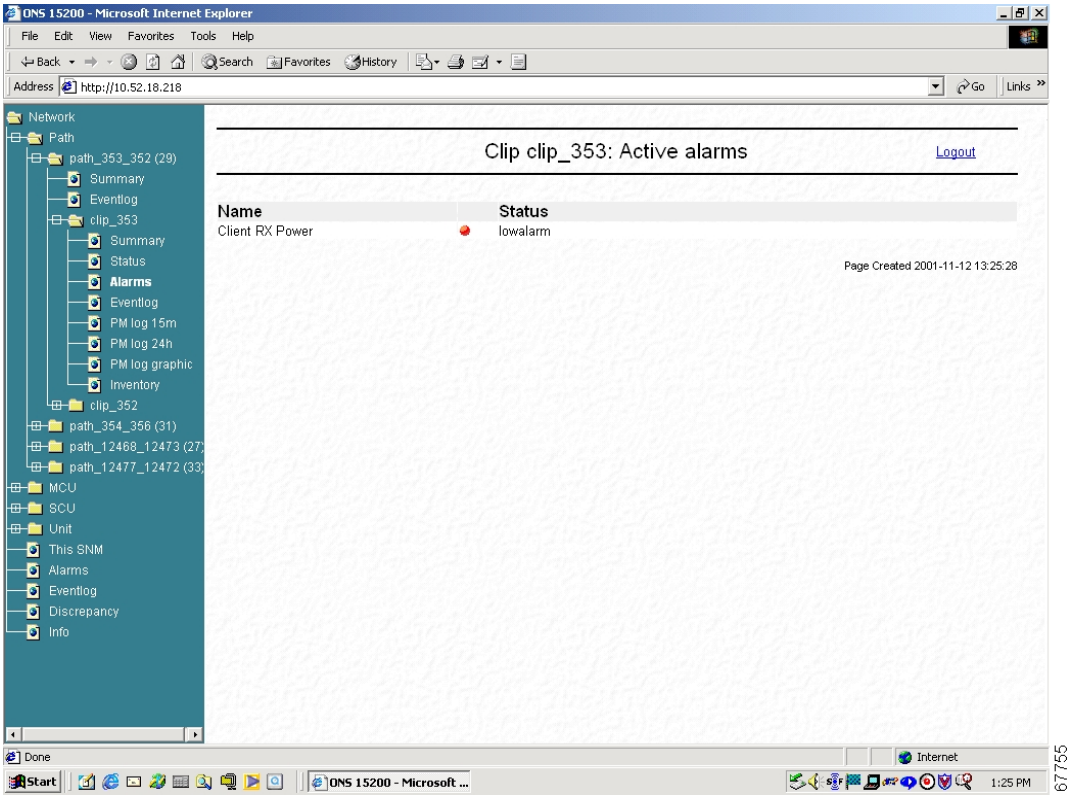
Figure 1-8 CLIP status screen in the ONS 15200 Web Interface software program



1.5.4 CLIP Alarms

The Alarms screen provides a list of all active alarms (Figure 1-9). Alarm screens are available for each CLIP module or for the complete system. See Chapter 3, “ONS 15200 Configurations” for more information regarding each parameter.

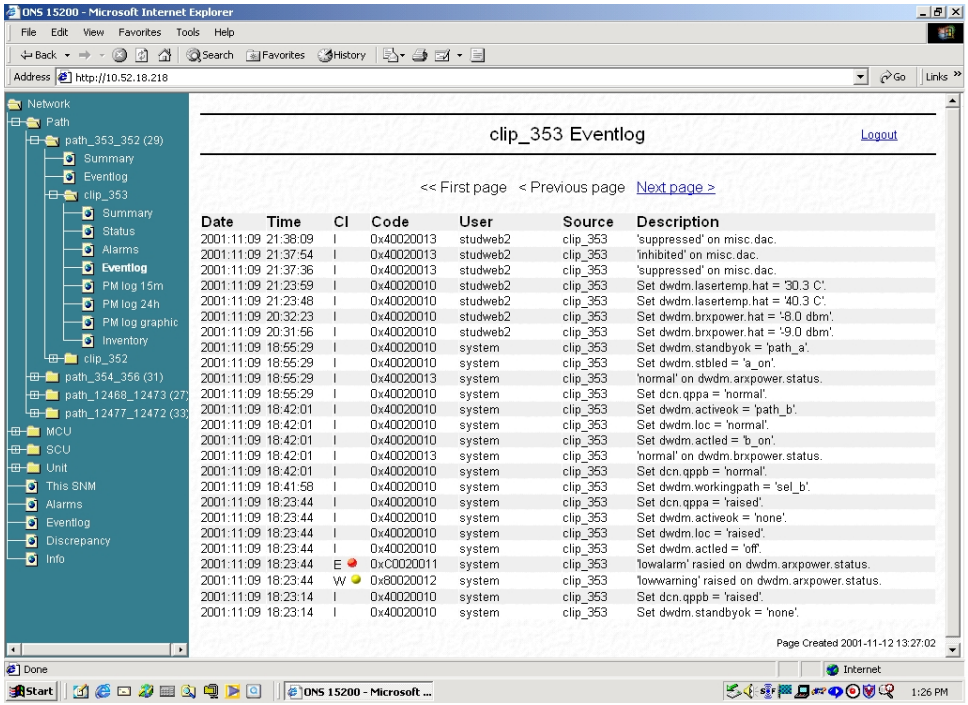
Figure 1-9 Active alarms screen in the ONS 15200 web interface software program



1.5.5 CLIP Event Log

The Event Log screen provides a tabular list of events for the selected CLIP. The information in Figure 1-10 is provided. See Chapter 3, “ONS 15200 Configurations” for more information about each parameter.

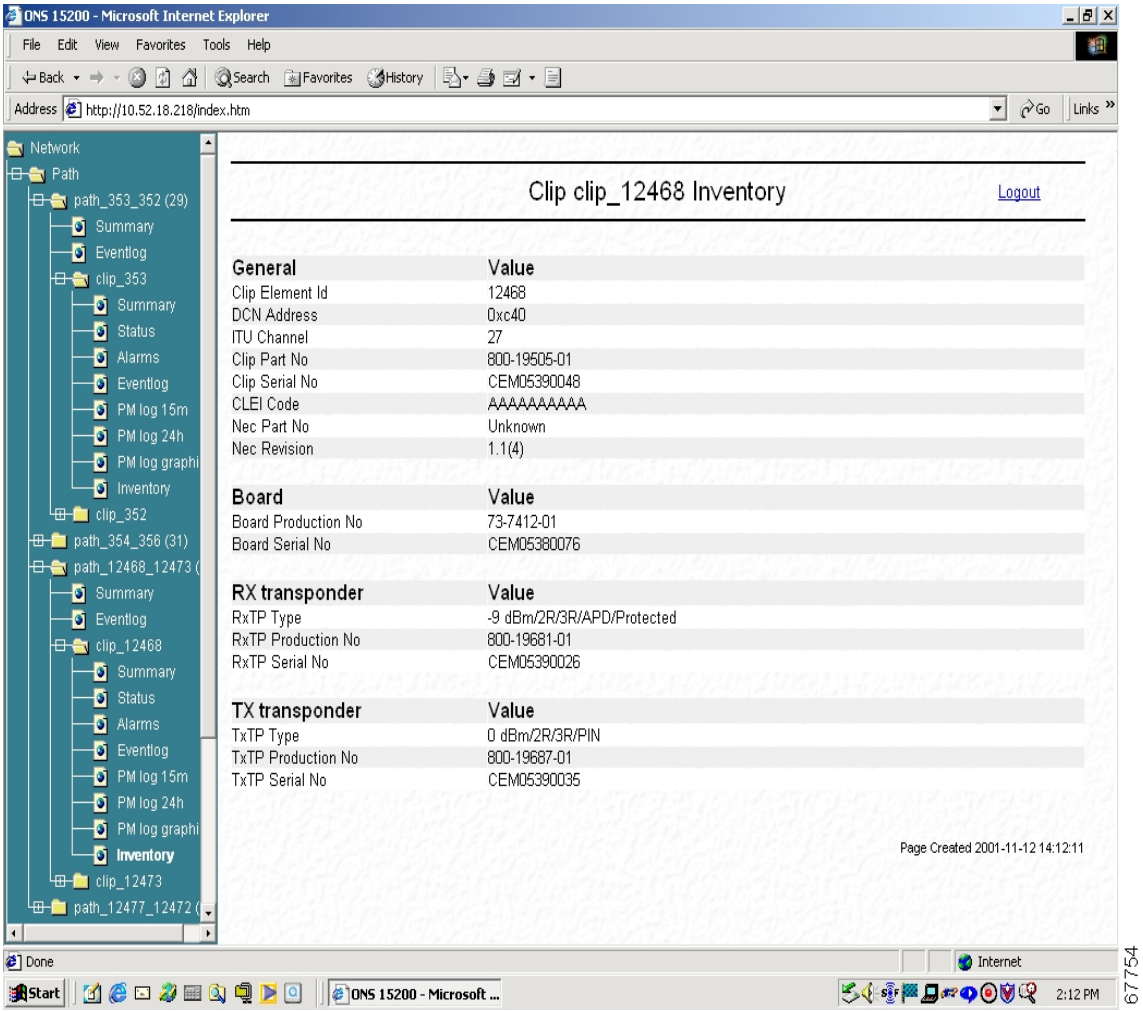
Figure 1-10 Event log screen in the ONS 15200 web interface software program



1.5.6 CLIP Inventory

The CLIP Inventory screen lists the CLIP modules installed in the NE (Figure 1-11).

Figure 1-11 CLIP Inventory screen in the ONS 15200 web interface software program



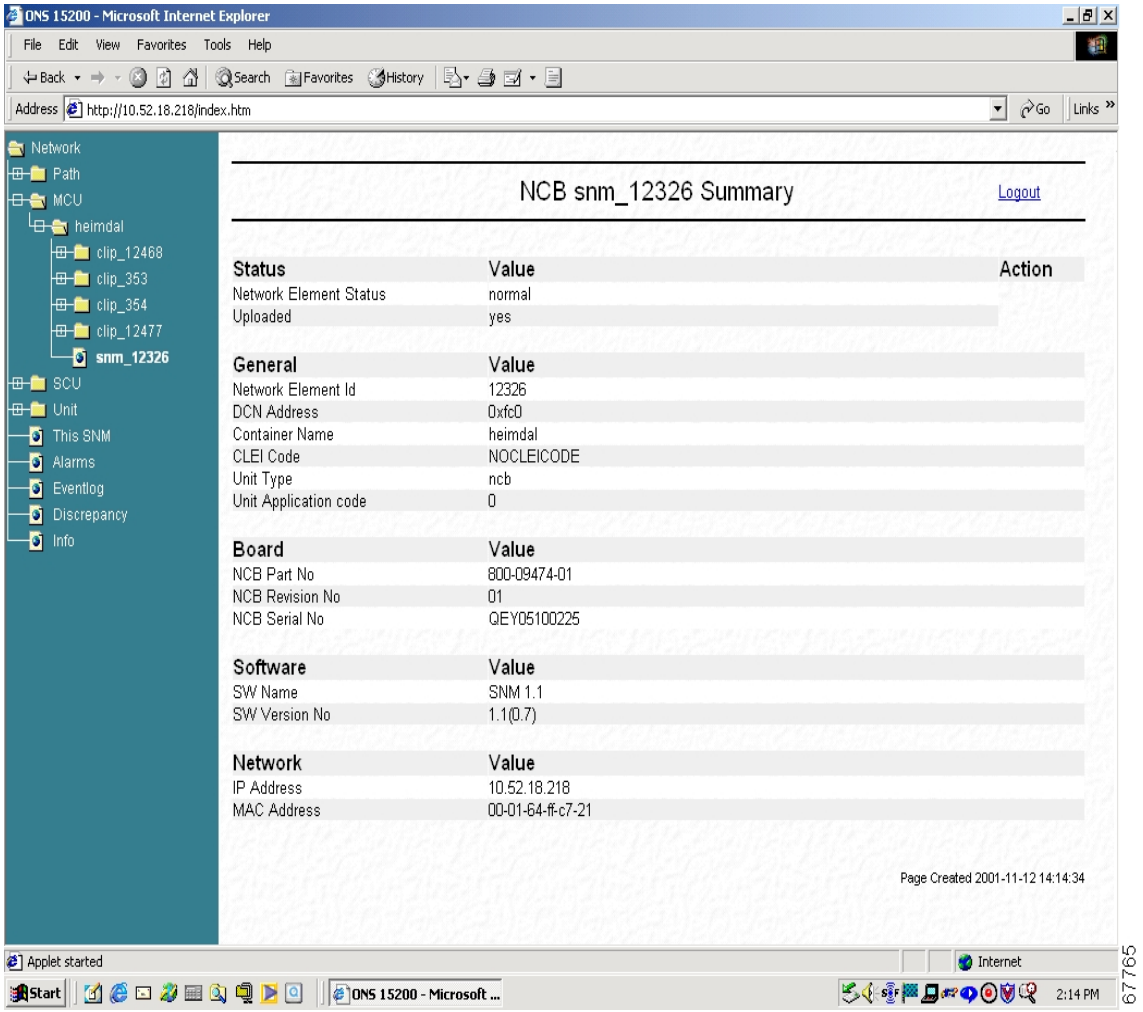
1.5.7 Unit

The Unit folder provides another method to access the CLIP and NCB modules installed in the ONS 15200 system. Modules listed in the Unit folder are sorted by unit name rather than by the NE.

1.5.8 NCB Summary

The NCB screen displays a tabular list of NCB module information.

Figure 1-12 NCB summary screen in the ONS 15200 web interface software program



CHAPTER 2

Getting Started

This chapter explains how to connect a computer to the Cisco ONS 15200 system, configure a web browser to view system information, and log into the system. The ONS 15200 system is the ONS 15252 multichannel unit (MCU) and ONS 15201 single-channel units (SCU) that make up the metropolitan dense wave division multiplexing (DWDM) network.

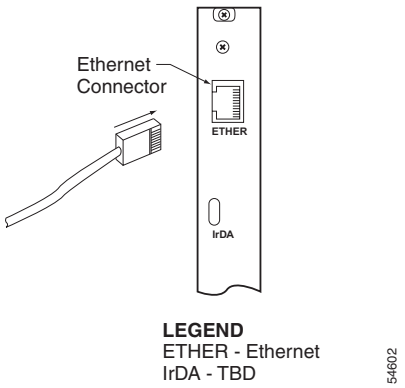
2.1 Connecting to the ONS 15200 System

The following paragraphs describe how to connect a computer running the ONS 15200 web interface to the ONS 15200 system. You can connect directly to the ONS 15200 system using the ONS 15252 MCU or connect indirectly through a LAN or WAN.

Procedure: Connect Directly to the ONS 15252 MCU

Step 1 Attach one end of a LAN connector cable to the Ethernet connector on the Network Control Board module (NCB) (Figure 2-1). The NCB module is located in Slot 17 on the right side of the MCU. The Ethernet connector on the NCB module is a standard RJ-45 connector.

Figure 2-1 NCB Module



Step 2 Connect the other end of the LAN cable to the Ethernet port on the computer that you are connecting to the ONS 15200 system.

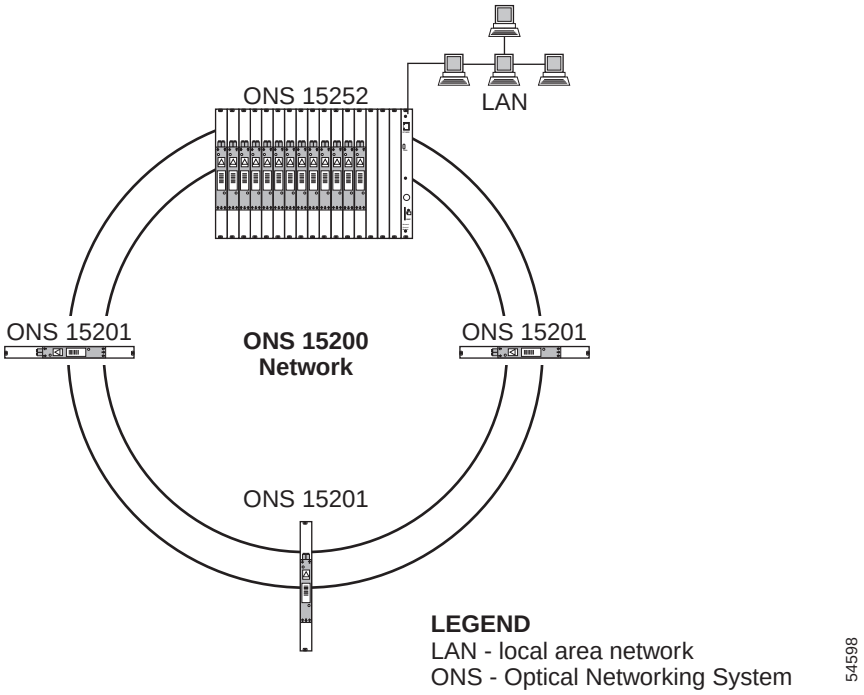
Note Connecting directly to the ONS 15200 system requires a crossover Ethernet cable.

Note The ONS 15200 system uses a 10 Mbps Ethernet interface only. A 100 Mbps Ethernet connection will not work.

2.1.1 Connecting with a LAN or WAN

To make an indirect connection to the ONS 15200 system, connect the computer to a LAN or WAN that is connected to the ONS 15200. Figure 2-2 shows a typical ONS 15200 system. Any computer in the extended network can be configured to retrieve system information from the ONS 15200 system. See the "Configuring the Computer" section on page 2-2 to configure the computer.

Figure 2-2 Typical ONS 15200 system



2.2 Configuring the Computer

The computer used to connect directly to the ONS 15200 system must be configured to use the same subnet and subnet mask as the ONS 15200 system. To configure the IP address, refer to the Microsoft Windows user documentation for instructions.

Procedure: Launch the ONS 15200 Web Interface Software Program

Note The ONS 15200 web interface communicates with the ONS 15200 through a standard Java-enabled Internet browser such as Microsoft Internet Explorer or Netscape Navigator. Cisco recommends using either Java-enabled Internet Explorer 5.5 (or later) or Netscape Navigator 4.5 to 4.7x.

Follow these steps to launch the ONS 15200 web interface application.

Step 1 Launch the web browser (Internet Explorer or Netscape Navigator).

Step 2 Type the IP address or URL of the ONS 15200 system in the Address field (e.g. http://20.44.19.230 or http://ncb17.cisco.com)

Step 3 Press **Enter**.

Step 4 Type a user name and password for the ONS 15200 system when prompted.

Step 5 Press **Enter**. The application launches. It may take a few seconds for the navigation area on the left of the window to appear.

Step 6 Bookmark the page for easy reference later.

Note Clicking the **Refresh** or **Reload** button in the browser will cause the connection to the ONS 15200 to be lost.

2.2.1 Exiting the Application

To exit the ONS 15200 web interface application, close the web browser window. To restart the application, click the blue **logout** symbol; the start screen will display.

CHAPTER 3

ONS 15200 Configurations

This chapter describes how to view and change ONS 15200 configuration information using the Cisco ONS 15200 web interface. This chapter describes the configuration information for operator users and guest users. Guest users can only view the network configuration and alarm events. Guest users have no access to change the network configuration.

Note Screens for Client Layer Interface Port (CLIP) modules vary according to the configuration of the CLIP modules. CLIP modules can be configured for protected or unprotected operation. The screens in this chapter show protected CLIP modules, and differences are noted.

3.1 CLIP Module Parameters

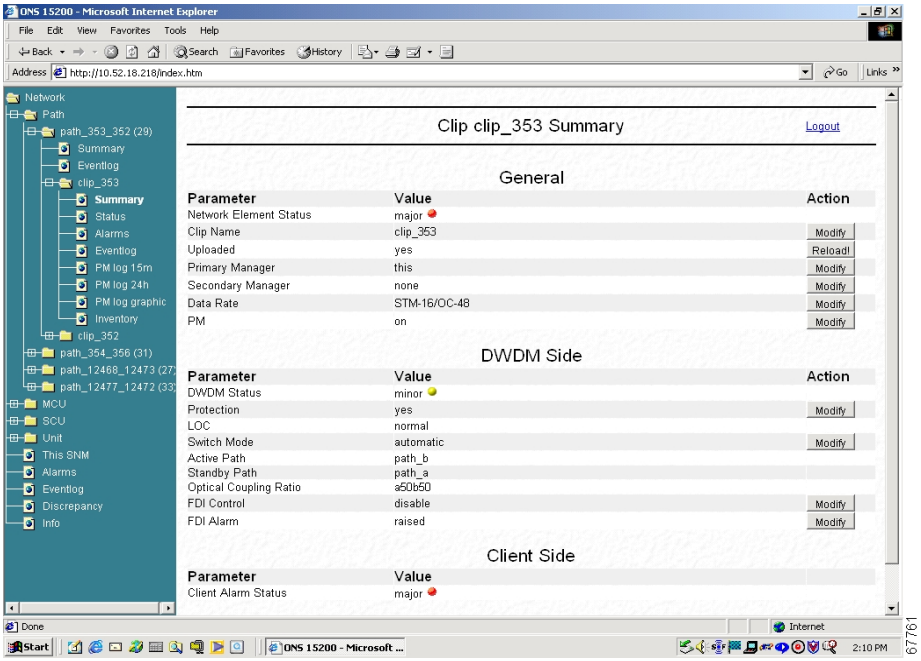
The ONS 15200 web interface allows you to view and adjust the configuration of each CLIP module installed in the ONS 15200 network. The following sections describe the parameters available for each module.

3.1.1 CLIP Module Summary Screen

The CLIP Module Summary screen (Figure 3-1) displays the configuration of the CLIP module. The screen is divided into three sections:

- The General section displays the operating state of the CLIP module.
- The DWDM Side section describes the selected configuration options of the CLIP module.
- The Client Side section describes the configuration of the CLIP module in relation to the client equipment attached to the ONS 15200 network.

Figure 3-1 CLIP Summary screen in the ONS 15200 web interface software program



Note The Action column on the right is available for operator users only. This column does not appear for guest users.

Procedure: Change the Data Rate

This procedure provides an example of how to change the data rate. The procedure is similar for all network configuration changes.

With this procedure you can make three adjustments to the network element:

- Change the name
- Change the value
- Change the threshold

Step 1 Display the CLIP Summary screen (Figure 3-1).

Step 2 In the Data Rate row, click **Modify**. The CLIP Settings screen appears.

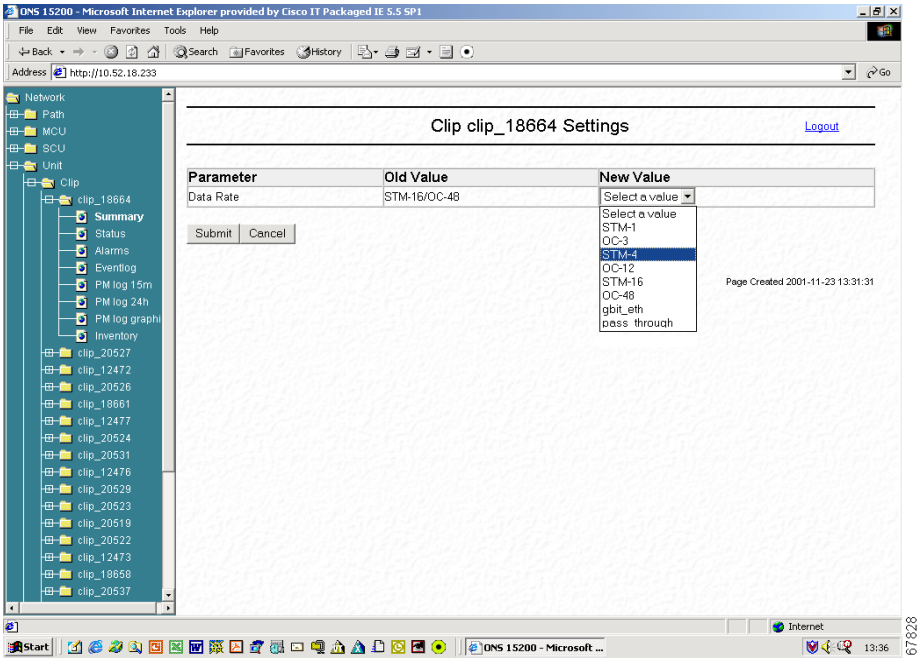
Step 3 Click the New Value pull-down menu and select the data rate you want to use (Figure 3-2 on page 3-3).

Step 4 Click **Submit**.

Note This step may take a few seconds (depending on the web speed).

Step 5 Check the current data rate; if required, repeat the procedure with the correct data rate.

Figure 3-2 CLIP Settings screen in the ONS 15200 web interface software program



Note The CLIP Settings screen is not available for guest users.

Table 3-1 lists and defines the general parameters that are shown in Figure 3-1.

Table 3-1 Clip Summary Parameters

Parameter	Definition
Network Element Status	Defines the operating status of the CLIP module in the MCU and SCU. The following states are possible in this field: Critical Major Minor Warning Normal
Clip Name	Modify the CLIP name

Table 3-1 Clip Summary Parameters (continued)

Parameter	Definition
Uploaded	The alarm messages will be updated from the system
Primary Manager	Describes which NCB controls the system. The following states are possible in this field: none this
Secondary Manager	Describes which NCB controls the system The following states are possible in this field: none this
Data Rate	Describes the rate at which data is transmitted by the ONS 15200 system The following states are possible in this field: STM-1/OC-3 STM-4/OC-12 STM-16/OC48 Gigabit Ethernet Pass through Inconsistent (shown if both ends of the path are not equal)
PM	Enables the measurement of the Performance Monitor The following states are possible in this field: on (enabled) off (disabled)
DWDM Status	Defines the status of the DWDM Side The following states are possible in this field: Critical Major Minor Warning Normal
Protection	Shows “yes” if the CLIP is in a protection mode
LOC	Loss Of Channel (Displays if the channel working/protection or working is lost)

Table 3-1 Clip Summary Parameters (continued)

Parameter	Definition
Switch Mode	Displays the switching scheme assigned to the selected CLIP module. The following states are possible in this field: cond_a (protected operation, revertive switching to a) cond_b (protected operation, revertive switching to b) forced_a (operation forced to channel a) forced_b (operation forced to channel b) automatic (protected operation, non-revertive switching)
Active Path	Identifies the active path (A side or B side)
Standby Path	Identifies the protect path (or standby path)
Optical Coupling ratio	Displays the traffic split ratio The following states are possible in this field: a100b0 a0b100 a10b90 a90b10 a50b50
FDI Control	Indicates whether the automatic protection switch is enabled or disabled
FDI Alarm	Indicates whether a switching error to the protect path has taken place This alarm can be treated in the following way: inhibit—a possible error status is not recognized in the unit (it will not be visible anywhere, even if unsuppressed) uninhibit—a possible error status is recognized in the unit suppress—a recognized error is suppressed for further display and evaluation Unsuppress—a recognized error is not suppressed for further display and evaluation, so it is visible
Client Alarm Status	Displays the operating status of the CLIP module in the MCU and SCU The following states are possible in this field: Critical Major Minor Warning Normal

3.1.2 CLIP Module Status Screen

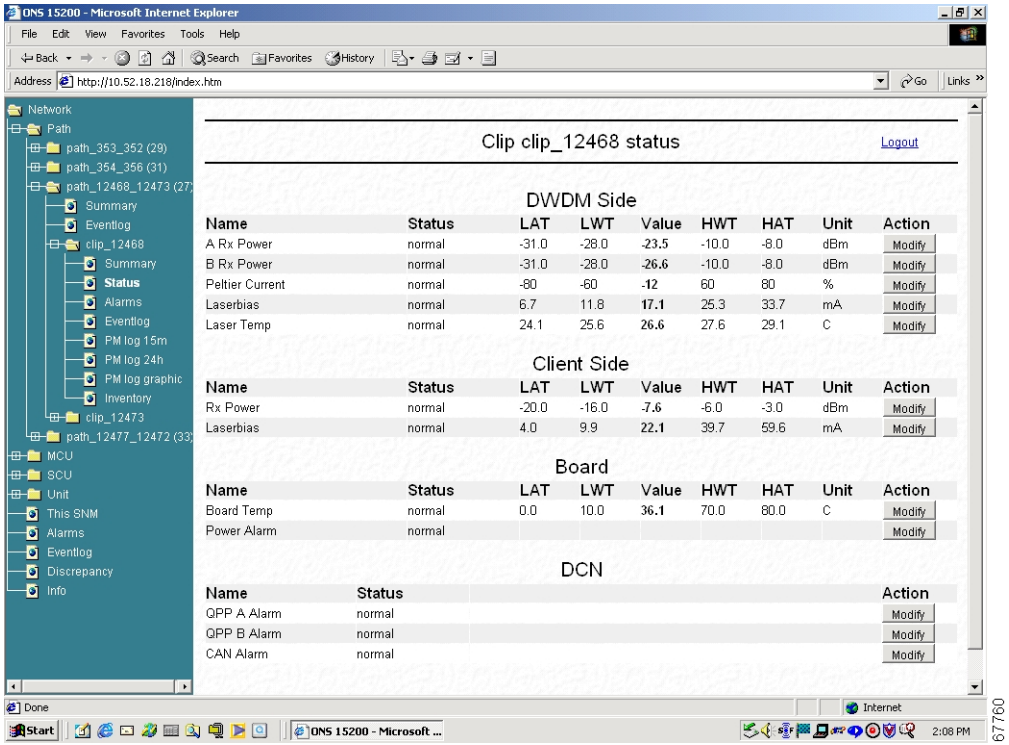
The CLIP Module Status screen displays the operating status of the CLIP module (Figure 3-3). Table 3-2 defines the measurements provided for each parameter.

Table 3-2 CLIP Module Status Screen Value Definitions

Measurement	Definition
Status	Describes the protection status of the module • Normal—The module is operating normally without alarms or warnings. • High alarm—The module has an active alarm generated because an upper threshold value was crossed. • High warning—The module has an active warning generated because an upper threshold value was crossed. • Low alarm —The module has an active alarm generated because a lower threshold value was crossed. • Low warning—The module has an active warning generated because a lower threshold value was crossed. • Inhibit—The alarm is not recognized • Suppressed—The alarm is not displayed.
HAT	High Alarm Threshold—Displays the upper threshold value that causes an alarm to be raised
HWT	High Warning Threshold—Displays the upper threshold value that causes a warning to be raised
Value	Displays the real-time value of the parameter as measured by the module
LAT	Lower Alarm Threshold—Displays the lower threshold value that causes an alarm to be raised
LWT	Lower Warning Threshold—Displays the lower threshold value that causes a warning to be raised
Unit	Displays the unit of measurement for the values of the selected parameter
Action	Allows the operator user to modify system parameters

The CLIP status screen (Figure 3-3) is divided into four sections: DWDM Side, Client Side, Board and DCN. Parameters listed in the DWDM Side section describe how the CLIP module is operating. Parameters listed in the Client Side section describe the quality of the signal received from the client equipment. The Board section provides the board parameter for the CLIP module. The DCN section describes the data protocol status.

Figure 3-3 CLIP status screen in the ONS 15200 web interface software program



Note The Action column on the right is available for operator users only. This column does not appear for guest users.

3.1.2.1 DWDM Side

The DWDM Side of the CLIP status screen describes how the CLIP module is operating. Table 3-3 describes the DWDM parameters.

Table 3-3 DWDM Parameter Definitions

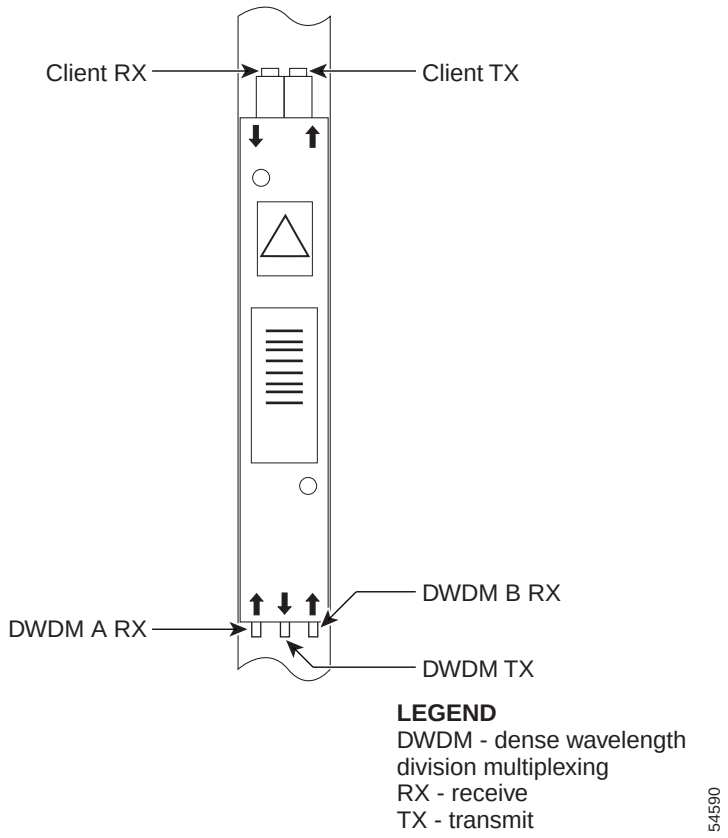
Parameter	Definition
A RX Power (protected only)	Displays the values associated with the strength of the signal received from the A-side MCU or SCU. **Note** The A RX Power parameter is displayed only for protected CLIP modules.
B RX Power (protected only)	Displays the values associated with the strength of the signal received from the B-side MCU or SCU. **Note** The B RX Power parameter is displayed only for protected CLIP modules.

Table 3-3 DWDM Parameter Definitions

Parameter	Definition
RX Power (unprotected only)	Displays the values associated with the strength of the signal received from the MCU or SCU. **Note** The RX Power parameter is not displayed for protected CLIP modules.
Peltier Current	Displays the values associated with the strength of the current to the Peltier device. The Peltier device regulates the temperature of the laser, which maintains the wavelength of the signal.
Laser Bias	Displays the value of the current component added to the modulation current in order to obtain a proper operating point for the laser.
Laser Temp	Displays the values associated with the temperature of the laser that transmits on the ONS 15200 network.

Figure 3-4 shows the RX and TX power measurement points for the DWDM interfaces on a CLIP module.

Figure 3-4 CLIP module RX and TX points



3.1.2.2 Client Side

The Client Side of the CLIP status screen describes how the CLIP module is operating. Table 3-4 describes the client access parameters. Figure 3-4 shows the RX and TX power measurement points for the client interfaces on a CLIP module.

Table 3-4 Client Access Parameter Definitions

Parameter	Definition
RX Power	Displays the optical power of the signal received from the client equipment attached to the ONS 15200 network.
Laser Bias	Displays the value of the current component added to the modulation current in order to obtain a proper operating point for the laser.

3.1.2.3 Board

The Board section of the CLIP status screen provides the Board Parameter for the CLIP module. The Board Temperature parameter displays the values associated with the ambient temperature on the surface of the CLIP module, which is located immediately below the TX transponder.

Table 3-5 DWDM Parameter Definitions

Parameter	Definition
Board Temp	Displays the values associated with the ambient temperature on the surface of the CLIP module, which is located immediately below the TX transponder.
Power Alarm	Displays the Power Alarm of the Power Supply 1 (PS1) and Power Supply 1 (PS2) connection.

3.1.2.4 DCN

The DCN section displays atheists of the software protocol that is used in the system.

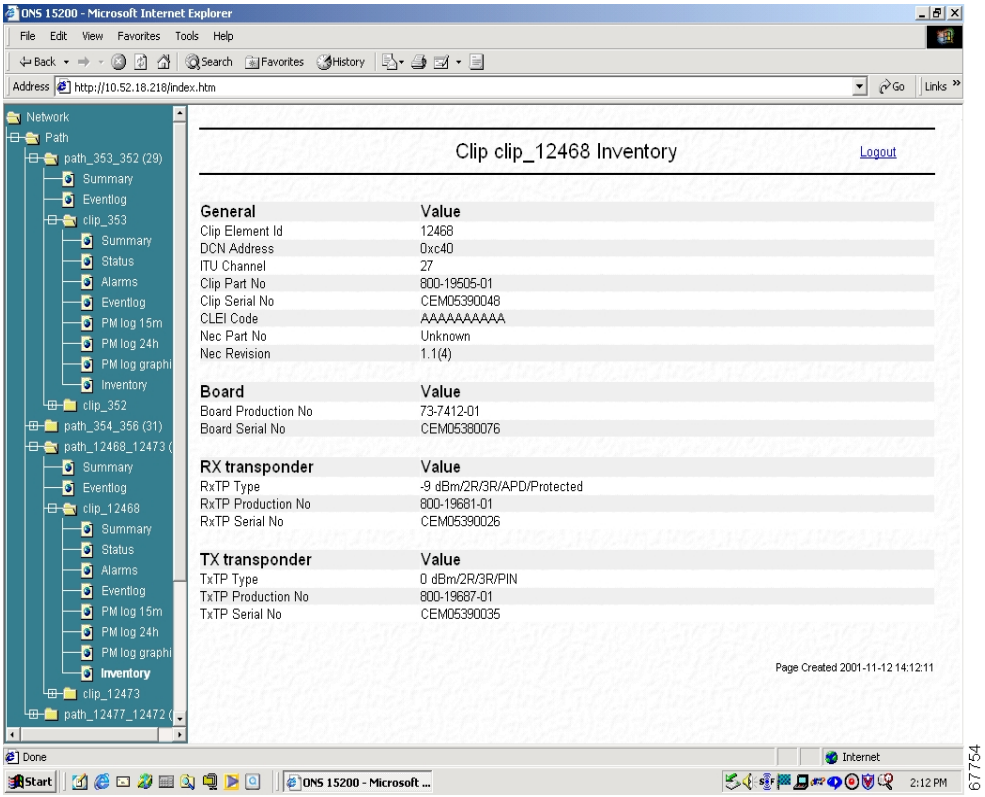
Table 3-1 DCN Parameter Definitions

Parameter	Definition
QPP A Alarm or QPP B Alarm	Displays an alarm status of the QPP proprietary protocol between two CLIPs forming one path (A path or B path)
CAN Alarm	Displays an alarm status of the CAN bus of the NCB

3.1.3 CLIP Module Inventory Screen

The CLIP Inventory screen provides information about the selected CLIP module. The CLIP Inventory screen is divided into four sections: General, Board, RX transponder, and TX transponder.

Figure 3-5 CLIP Inventory screen in the ONS 15200 web interface software program



3.1.3.1 General

The General section of the CLIP Inventory screen displays inventory information about the entire CLIP module (Figure 3-5). Table 3-6 lists and defines the general parameters.

Table 3-6 General Parameters on the CLIP Inventory Screen

Parameter	Definition
CLIP Element Id	Displays the Element Id (identification) of the CLIP module
DCN Address	Data Control Network address. Defines the address assigned to this module
ITU Channel	Displays the channel that the CLIP module is configured to operate on. Channels are defined according to the standard ITU grid
Clip Part No	Displays the CLIP Part Number (Cisco order number)
Clip Serial No	Displays the Serial Number of the CLIP module
CLEI Code	Displays the CLEI code
Nec Part No	Displays the part number of the firmware that is installed in the selected CLIP module
NE Revision	Displays the revision of the firmware that is installed in the selected CLIP module

3.1.3.2 Board

The Board section of the CLIP Inventory screen displays inventory information about the main circuit board on the CLIP module (Figure 3-5). Table 3-7 lists and defines the Board parameters.

Table 3-7 Board Parameters on the CLIP Inventory Screen

Parameter	Definition
Board Production No	Displays the part number assigned to the main circuit board in the CLIP module.
Serial Number	Displays the serial number of the main circuit board in the CLIP module.

3.1.3.3 RX Transponder

The RX transponder section of the CLIP Inventory screen displays inventory information about the RX transponder submodule on the CLIP module (Figure 3-5). Table 3-8 lists and defines the RX Transponder parameters.

Table 3-8 RX Transponder Parameters on the CLIP Inventory Screen

Alarm Name	Definition
RxTP Type	Displays the type of RX transponder installed on the selected CLIP module. The *Type* definition is divided into the following parts: • Client laser transmitter nominal output power • Level of signal regeneration (2R/3R) • APD or PIN - Avalanche Photo Diode (DWDM side receiver) or PIN Diode • Protected or unprotected
RxTP Production No	Displays the part number of the RX transponder module installed in the selected CLIP module.
RxTP Serial No	Displays the serial number of the RX transponder module installed in the selected CLIP module

3.1.3.4 TX Transponder

The TX transponder section of the CLIP Inventory screen displays inventory information about the TX transponder submodule on the CLIP module (Figure 3-5). Table 3-9 lists and defines the TX Transponder parameters.

Table 3-9 TX Transponder Parameters on the CLIP Inventory Screen

Alarm Name	Definition
TxTP Type	Displays the type of TX transponder installed on the selected CLIP module. The Type definition is divided into the following parts: • Receive power sensitivity • Level of signal regeneration (2R/3R) • PIN - diode (Client side receiver)
TxTP Production No	Displays the part number of the TX transponder module installed in the selected CLIP module.
TxTP Serial No	Displays the serial number of the TX transponder module installed in the selected CLIP module

3.2 Network Configurations

The ONS 15200 web interface allows you to view configuration information about the ONS 15200 network. The following sections describes the parameters available.

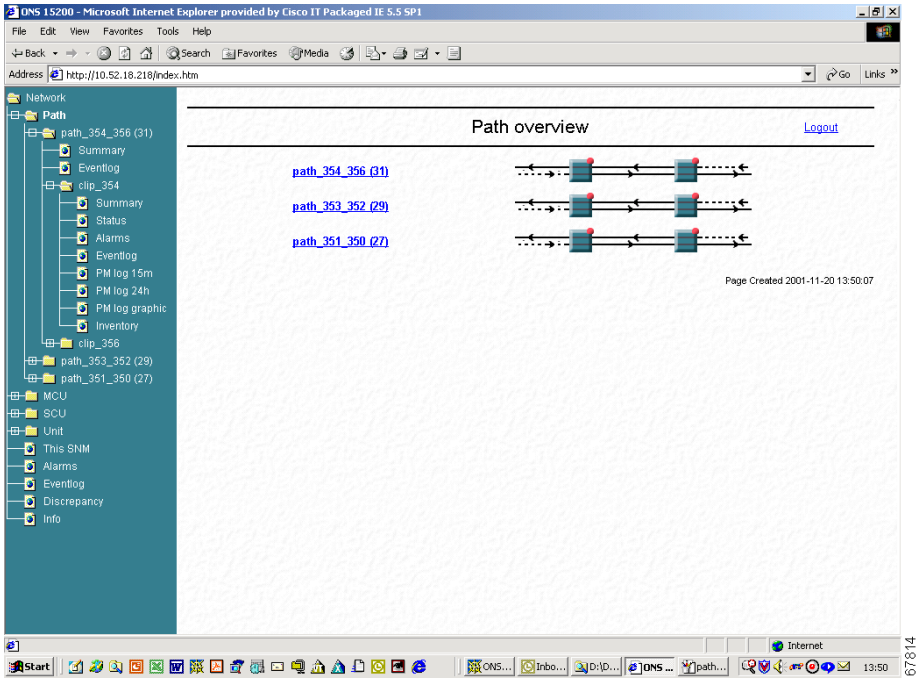
3.2.1 Path Overview Screen

The Path Overview screen provides an overview of the optical paths configured for the ONS 15200 network (Table 3-6).

NE active alarms are indicated by LEDs. The type of path is indicated by the line style between the CLIP modules. A thick line indicates a protected path; a thin line indicates an unprotected path. A dotted line indicates no input signal.

Timesaver To access the CLIP status screen, click the rectangular NE graphical representation.

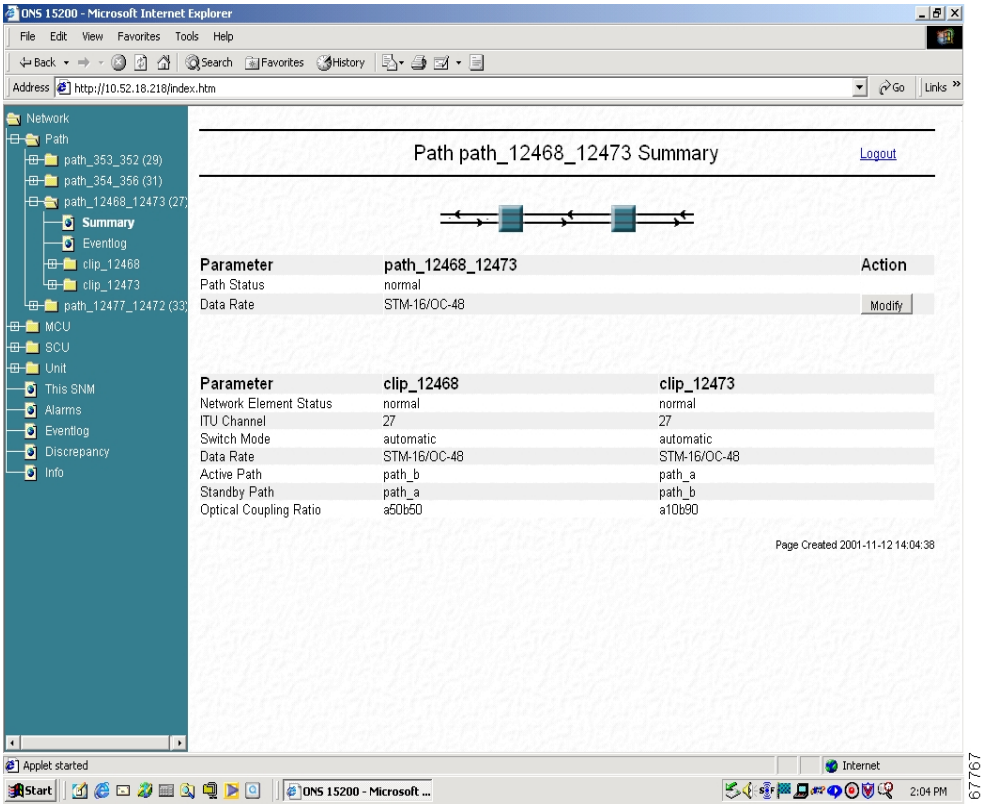
Figure 3-6 Path Overview screen in the ONS 15200 web interface software program



3.2.2 Path Summary Screen

The Path Summary screen provides an operational summary of the selected path (Figure 3-7). The Path Summary screen is divided into two sections. The first section provides a graphical representation of the selected path. Active alarms are indicated by colored LEDs. The second section, the summary table, lists measurements for the each CLIP module in the path. See Table 3-10 for path summary parameter definitions.

Figure 3-7 Path summary screen in the ONS 15200 web interface software program



Note The Action column on the right is available for operator users only. This column does not appear for guest users.

Table 3-10 Path Summary Parameters

Parameter	Definition
Path Status	Defines the operating status of the CLIP module in the MCU and SCU The following states are possible in this field: • Critical • Major • Minor • Warning • Normal
Data Rate	Describes the rate at which data is transmitted by the ONS 15200 system The following states are possible in this field: • STM-1/OC-3 • STM-4/OC-12 • STM-16/OC48 • Gigabit Ethernet • Pass through • Inconsistent (shown if both ends of the path are not equal)
Network Element Status	Defines the operating status of the CLIP module in the MCU and SCU The following states are possible in this field: • Critical • Major • Minor • Warning • Normal
ITU Channel	Displays the channel where the CLIP module is configured to operate
Switch Mode (protected only)	Displays the switching scheme assigned to the selected CLIP module The following states are possible in this field: • cond_a (protected operation, revertive switching to a) • cond_b (protected operation, revertive switching to b) • forced_a (operation forced to channel a) • forced_b (operation forced to channel b) • automatic (protected operation, non-revertive switching)

Table 3-10 Path Summary Parameters (continued)

Parameter	Definition
Data Rate	Describes the rate at which data is transmitted by the ONS 15200 system The following states are possible in this field: • STM-1/OC-3 • STM-4/OC-12 • STM-16/OC48 • Gigabit Ethernet • Pass through • Inconsistent (shown if both ends of the path are not set equal)
Active path	Defines whether the A side or B side is the active path
Standby path (protected only)	Defines which path is the protect path
Optical Coupling Ratio	Displays the traffic split ratio

3.2.3 MCU Overview Screen

The MCU Overview screen provides an overview of the MCU that is configured for the ONS 15200 network. The MCU Overview screen is divided into two sections. One section provides a textual MCU and the other displays a graphical representation of the MCU.

Active NE alarms are indicated by LEDs. Click the network element the status screen to display the network element appears.

CHAPTER 4

Alarms and Events

This chapter describes how to use the Cisco ONS 15200 web interface to view alarms and events for the ONS 15200 system.

4.1 CLIP Active Alarms Screen

The CLIP Active alarms screen provides a list of active alarms for the selected Client Layer Interface Port (CLIP) module (Figure 4-1). The CLIP Active alarms screen has two columns: Name and Status. Table 4-1 describes the alarms that can appear in the Name column.

Figure 4-1 CLIP Active alarms screen in the ONS 15200 web interface software program

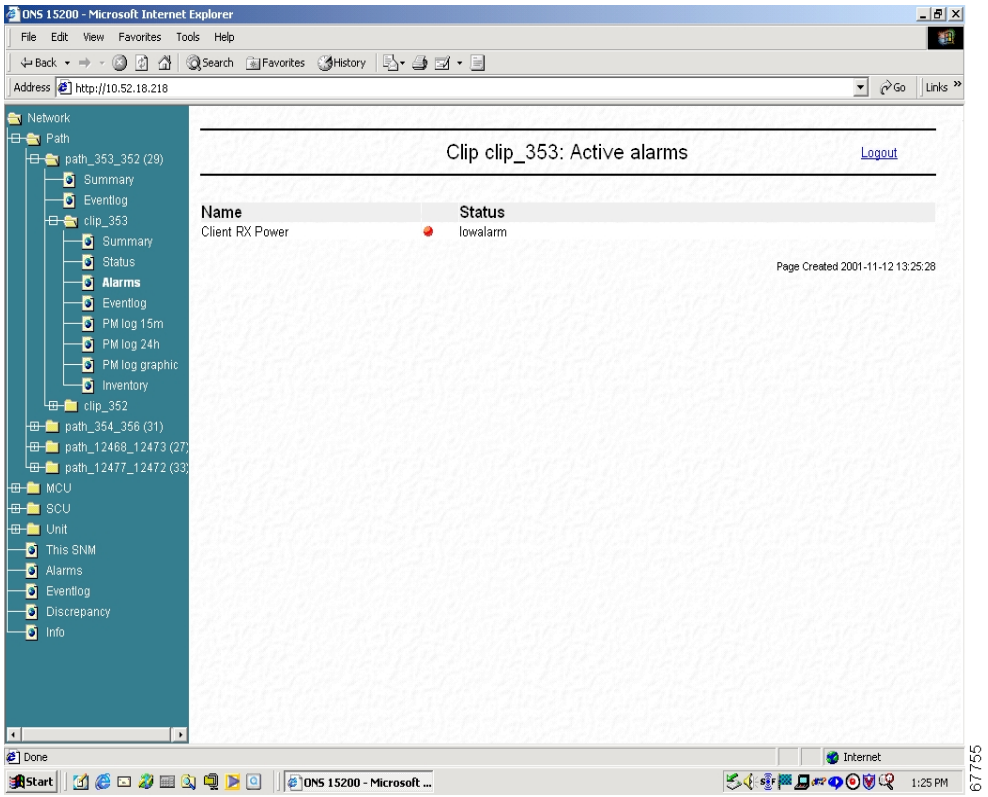


Table 4-1 Alarms

Alarm Name	Definition
DWDM A RX Power (protected only)	Indicates that the power input on side A of the ONS 15200 network is outside the acceptable range
DWDM B RX Power (protected only)	Indicates that the power input on side B of the ONS 15200 network is outside the acceptable range
DWDM B RX Power (unprotected only)	Indicates that the power input on the ONS 15200 network is outside the acceptable range
DWDM Peltier Current	Indicates that the Peltier current of the selected CLIP module is outside the acceptable range
DWDM Laserbias	Indicates that the value of the current used to control laser modulation is not within the specified range
DWDM LOC	Indicates that the working/protection or working channel is lost
DWDM FDI Alarm	Indicates whether a switching action to the protection path has taken place (Forward Defect Indication)
DWDM Laser Temp	Indicates that the temperature of the laser transmitting to the ONS 15200 network is outside the acceptable range
Client RX Power	Indicates that the power input from the client equipment is outside the acceptable range
Client Laserbias	Indicates that the value of the current used to control laser modulation is not within the specified range
BOARD Board Temp	Indicates that the temperature on the surface of the CLIP module circuit board is outside the acceptable range
BOARD Power Alarm	Indicates that the PS-1or the PS-2 input is outside the acceptable range
QPPA (protected only)	Indicates a proprietary protocol error on the A-side of the network
QPPB (protected only)	Indicates a proprietary protocol error on the B-side of the network
QPP (unprotected only)	Indicates a proprietary protocol error
CAN	Indicates an error on the CAN bus

Table 4-2 describes the values displayed in the Status column. LEDs located next to the status indicate the severity of the alarm.

Table 4-2 Alarm Status Parameter Definitions

Alarm Name	Definition
highalarm	A CLIP module recorded an event in which an upper alarm threshold was crossed
lowalarm	A CLIP module recorded an event in which a lower alarm threshold was crossed
highwarning	A CLIP module recorded an event in which an upper warning threshold was crossed
lowwarning	A CLIP module recorded an event in which a lower warning threshold was crossed

Table 4-3 describes the LEDs.

Table 4-3 Alarm Status Color Definitions

Alarm Name	Definition
Red	Critical or major alarm—The condition reported by the alarm affects traffic.
Yellow	Minor alarm or warning—The condition reported by the alarm could affect the quality of service, but does not threaten the continuity of service.

4.2 CLIP Eventlog Screen

The CLIP Eventlog screen displays a list of events that have occurred in relation to the selected CLIP module (Figure 4-2).

Figure 4-2 Clip Eventlog screen in the ONS 15200 web interface software program

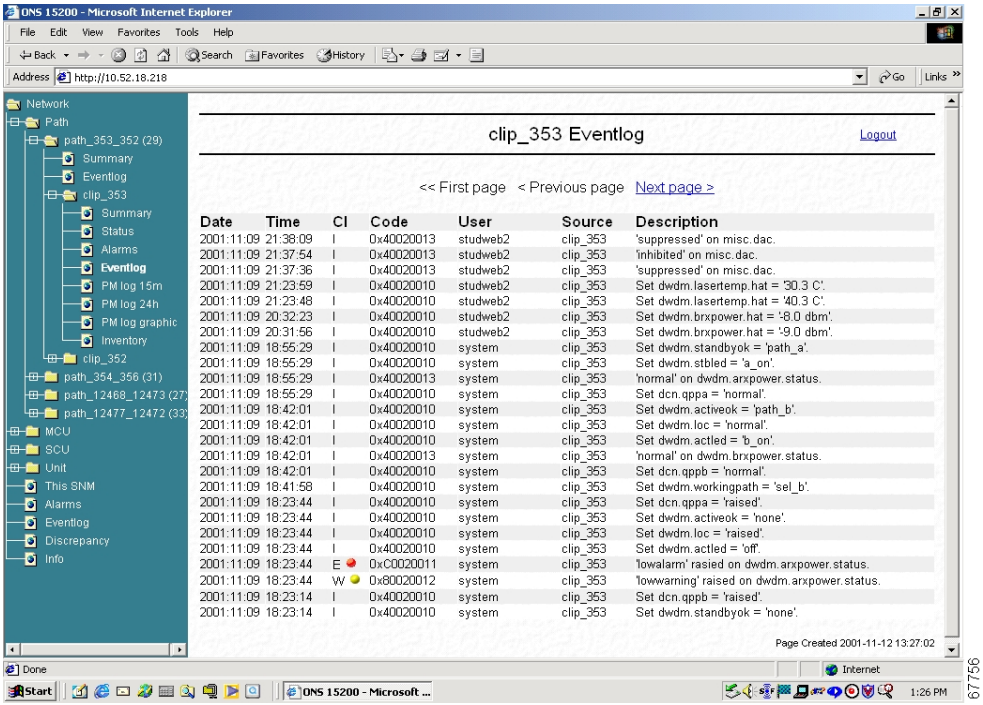


Table 4-4 describes the information provided on the CLIP Eventlog screen.

Table 4-4 CLIP Event Log Parameters

Alarm Name	Definition
Date	Displays the date (yyyy-mm-dd) where the selected event occurred.
Time	Displays the time (hh:mm:ss) where the selected event occurred.
CI	Class displays an LED indicating the severity of the alarm: • E —Error (red) • W—Warning (yellow) • I—Informational (blank)
Code	Displays the internal code assigned to the event.
User	Displays the user name of the person that performed the selected activity. Activities initiated automatically are logged as *system*.
Source	Displays the name of the module where the activity was initiated.
Description	Displays a description of the event.

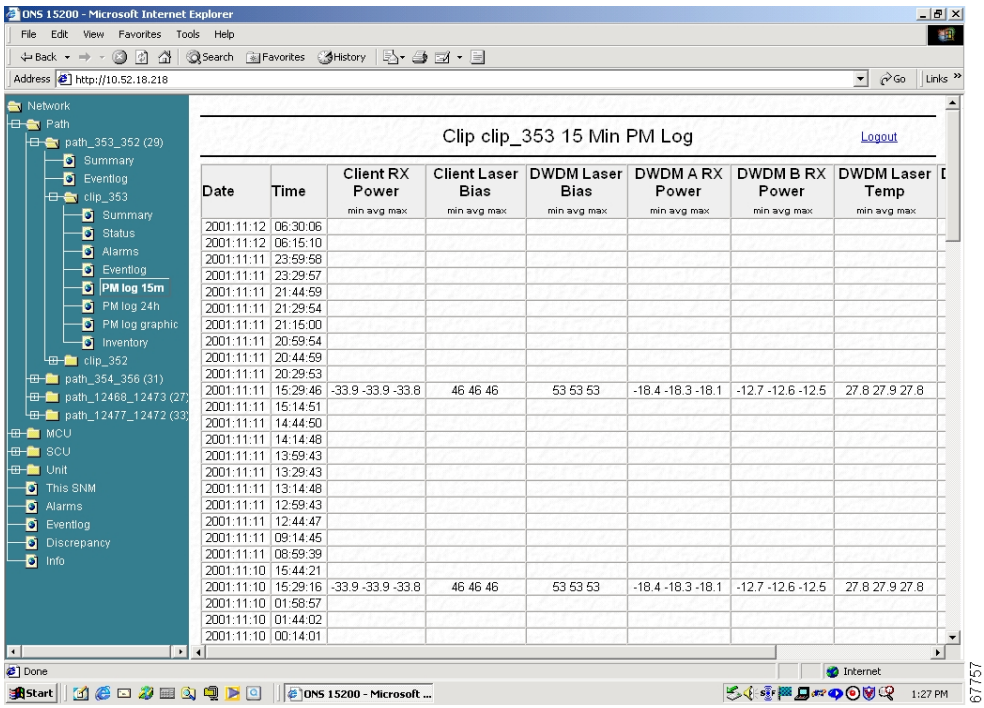
4.3 Clip Performance Monitor

The Performance Monitor screen displays a list of measurements that have occurred in relation to the selected CLIP module.

4.3.1 Clip Performance Monitor (15 Min.)

The Performance Monitor (PM log 15m) screen provides a list of measurements for the selected CLIP module (Figure 4-3). All measurements are displayed in 15 minutes intervals.

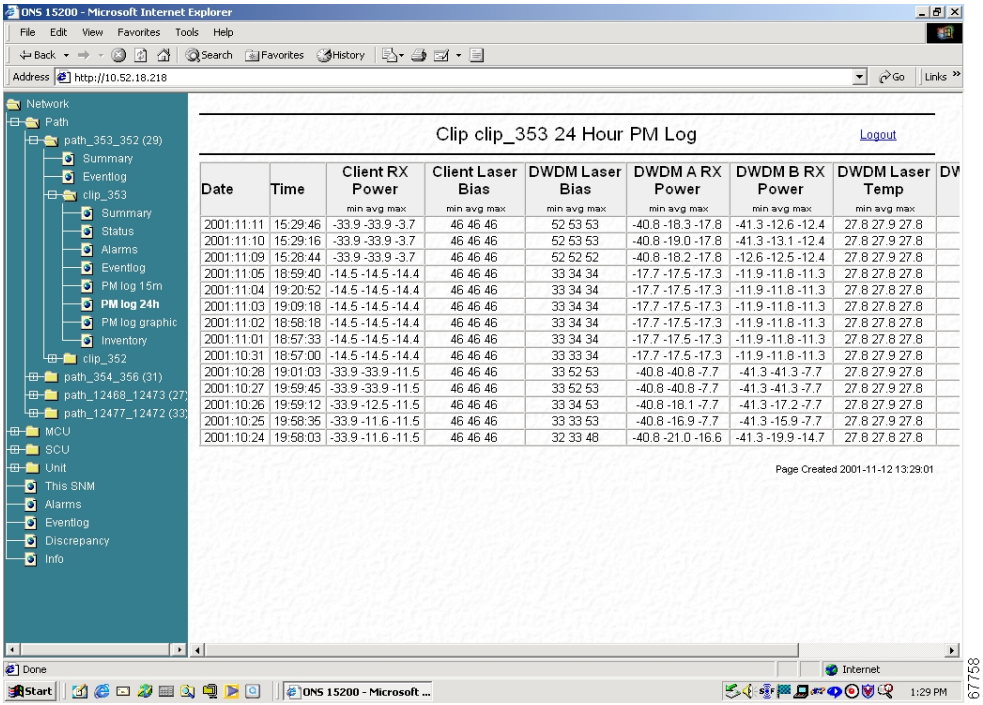
Figure 4-3 CLIP 15 Min PM Log screen in the ONS 15200 web interface software program



4.3.2 Clip Performance Monitor (24 Hr.)

The Performance Monitor (PM log 24h) screen provides a list of measurement for the selected CLIP module (Figure 4-4). All measurements are displayed in 24 hour intervals.

Figure 4-4 CLIP 24 Hour PM Log screen in the ONS 15200 web interface software program

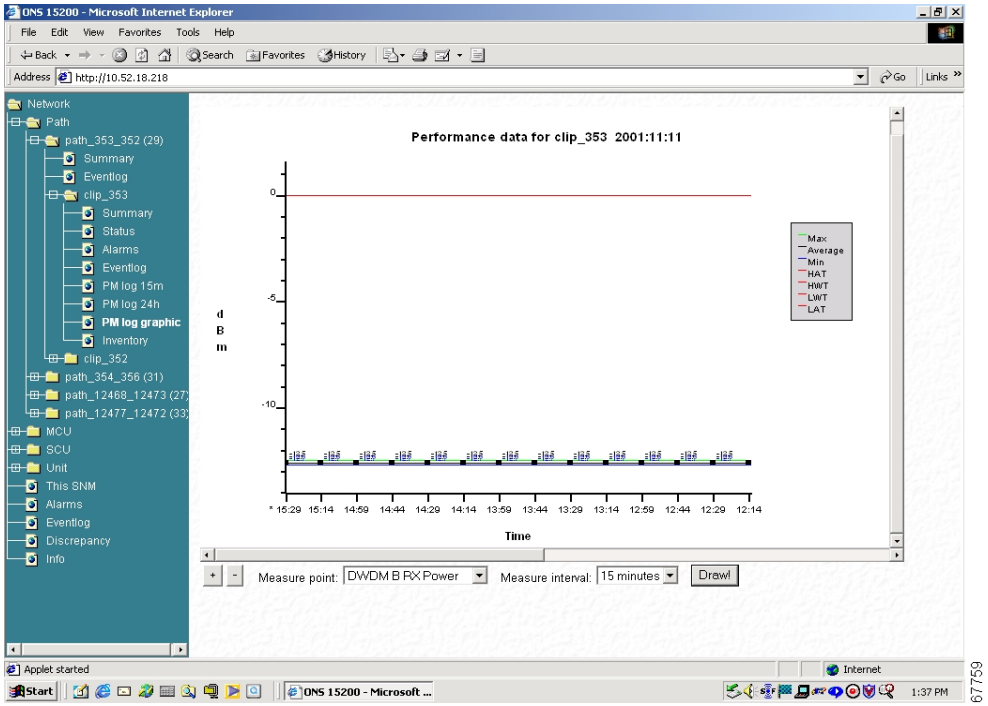


Date	Time	Client RX Power min avg max	Client Laser Bias min avg max	DWDM Laser Bias min avg max	DWDM A RX Power min avg max	DWDM B RX Power min avg max	DWDM Laser Temp min avg max	DV
2001:11:11	15:29:46	-33.9 -33.9 -3.7	46 46 46	52 53 53	-40.8 -18.3 -17.8	-41.3 -12.6 -12.4	27.8 27.9 27.8	
2001:11:10	15:29:16	-33.9 -33.9 -3.7	46 46 46	52 53 53	-40.8 -19.0 -17.8	-41.3 -13.1 -12.4	27.8 27.9 27.8	
2001:11:09	15:28:44	-33.9 -33.9 -3.7	46 46 46	52 52 52	-40.8 -18.2 -17.8	-12.6 -12.5 -12.4	27.8 27.9 27.8	
2001:11:05	18:59:40	-14.5 -14.5 -14.4	46 46 46	33 34 34	-17.7 -17.5 -17.3	-11.9 -11.8 -11.3	27.8 27.8 27.8	
2001:11:04	19:20:52	-14.5 -14.5 -14.4	46 46 46	33 34 34	-17.7 -17.5 -17.3	-11.9 -11.8 -11.3	27.8 27.8 27.8	
2001:11:03	19:09:18	-14.5 -14.5 -14.4	46 46 46	33 34 34	-17.7 -17.5 -17.3	-11.9 -11.8 -11.3	27.8 27.8 27.8	
2001:11:02	18:58:18	-14.5 -14.5 -14.4	46 46 46	33 34 34	-17.7 -17.5 -17.3	-11.9 -11.8 -11.3	27.8 27.8 27.8	
2001:11:01	18:57:33	-14.5 -14.5 -14.4	46 46 46	33 34 34	-17.7 -17.5 -17.3	-11.9 -11.8 -11.3	27.8 27.8 27.8	
2001:10:31	18:57:00	-14.5 -14.5 -14.4	46 46 46	33 33 34	-17.7 -17.5 -17.3	-11.9 -11.8 -11.3	27.8 27.9 27.8	
2001:10:28	19:01:03	-33.9 -33.9 -11.5	46 46 46	33 52 53	-40.8 -40.8 -7.7	-41.3 -41.3 -7.7	27.8 27.9 27.8	
2001:10:27	19:59:45	-33.9 -33.9 -11.5	46 46 46	33 52 53	-40.8 -40.8 -7.7	-41.3 -41.3 -7.7	27.8 27.9 27.8	
2001:10:26	19:59:12	-33.9 -12.5 -11.5	46 46 46	33 34 53	-40.8 -18.1 -7.7	-41.3 -17.2 -7.7	27.8 27.9 27.8	
2001:10:25	19:58:35	-33.9 -11.6 -11.5	46 46 46	33 33 53	-40.8 -16.9 -7.7	-41.3 -15.9 -7.7	27.8 27.9 27.8	
2001:10:24	19:58:03	-33.9 -11.6 -11.5	46 46 46	32 33 48	-40.8 -21.0 -16.6	-41.3 -19.9 -14.7	27.8 27.8 27.8	

4.3.3 Clip Performance Monitor Graphic

The Performance Monitor (PM log graphic) screen displays the measurement for the selected CLIP module (Figure 4-5).

Figure 4-5 CLIP Performance Data graphic screen in the ONS 15200 web interface software program



Procedure: View a Measurement

Step 1 On the CLIP Performance data screen, choose the **Measure point** from the pull-down menu.

Step 2 Choose the **Measure interval** from the pull down menu.

Step 3 Click the **Draw** Button.

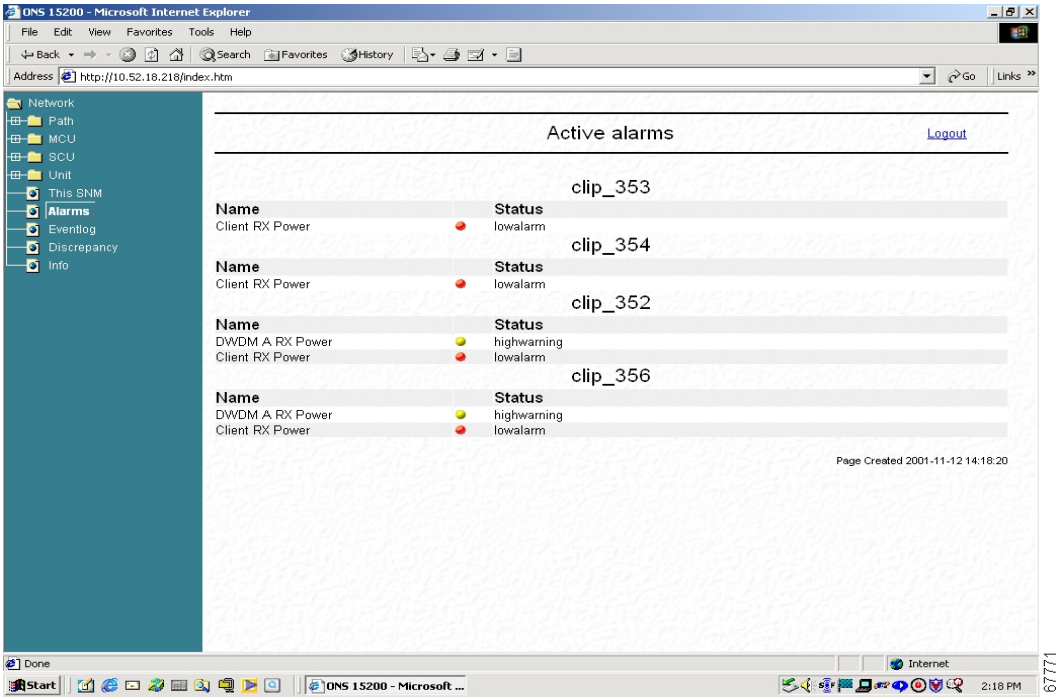
Note After a few moments the graphic displays.

Step 4 Choose the **Zoom** button to change the display area.

4.4 Active Alarms Screen

The Active Alarms screen provides a summary of active alarms for all CLIP modules (Figure 4-6).

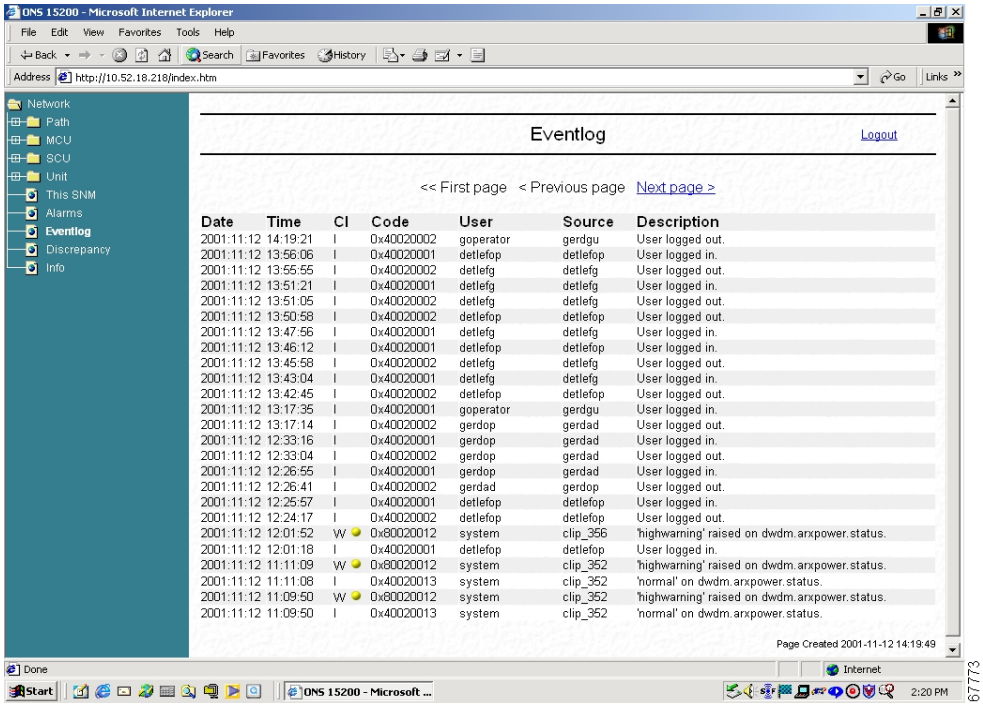
Figure 4-6 Active alarms screen in the ONS 15200 web interface software program



4.5 Eventlog Screen

The Eventlog screen displays a list of events that have occurred in the system (Figure 4-7).

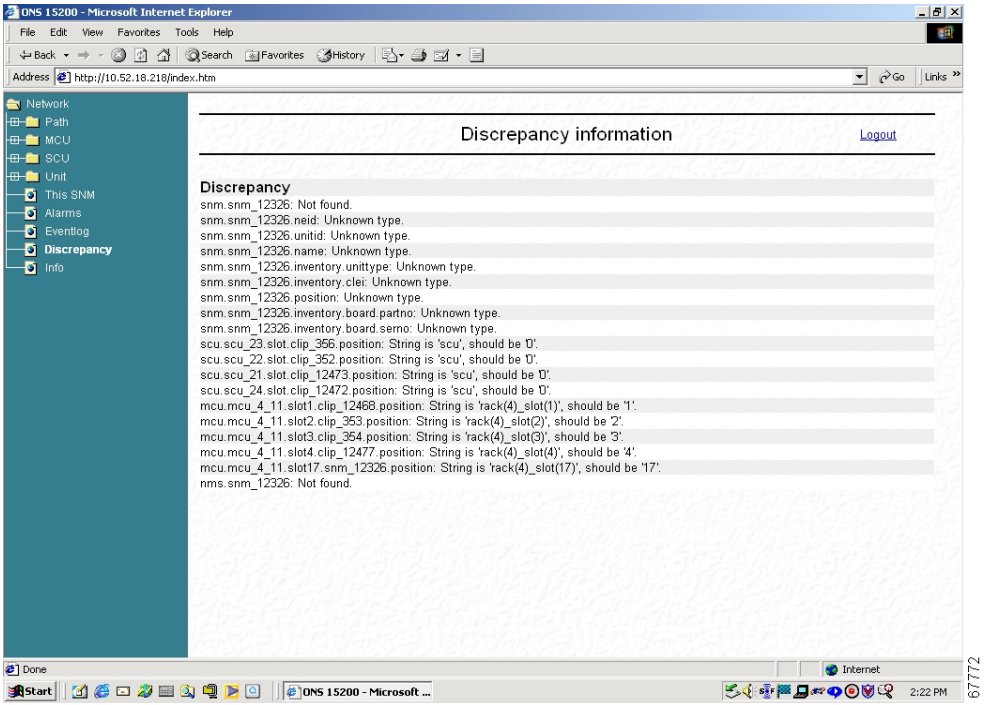
Figure 4-7 Eventlog screen in the ONS 15200 web interface software program



4.6 Discrepancy Information Screen

The Discrepancy Information screen (Figure 4-8) displays the difference between the configuration which is saved in the EEPROM and the real configuration found by the system software.

Figure 4-8 Discrepancy information screen in the ONS 15200 web interface software program



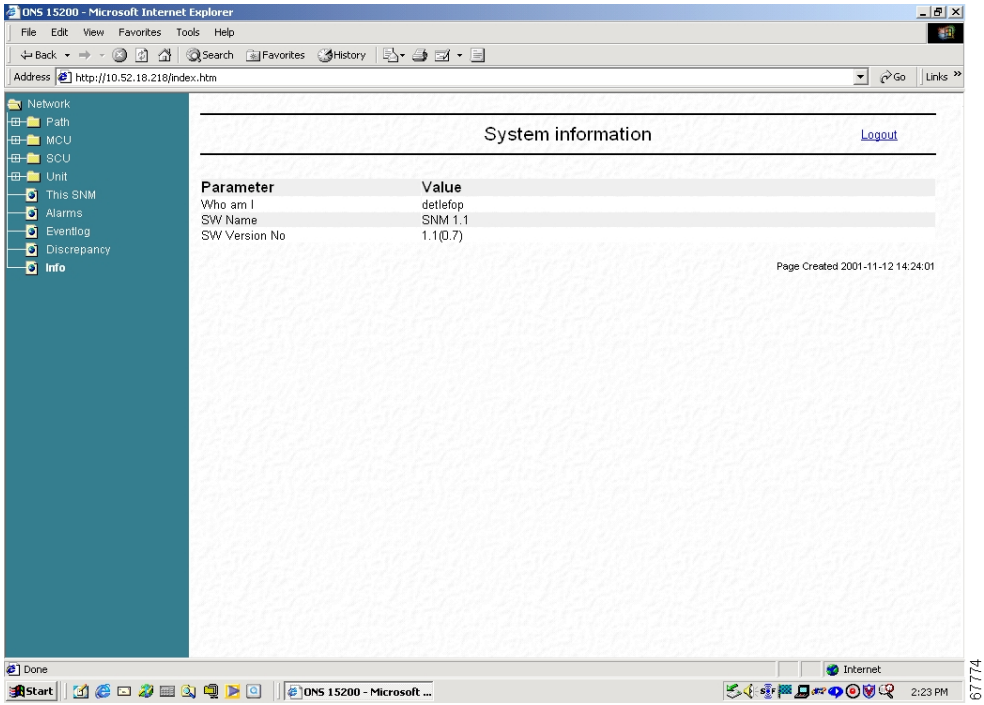
4.7 System Information Screen

The System Information screen gives a short system overview (Figure 4-9).

Table 4-5 System Information

Parameter	Definition
Who am I	Shows the login user
SW Name	Displays the software name and version
SW Version No	Displays the software and review version

Figure 4-9 System information screen in the ONS 15200 web interface software program



CHAPTER 5

Administrator Functions

This chapter describes how to use the Cisco ONS 15200 web interface software to perform administrator functions on the Cisco ONS 15200 system. An administrator can assign three different user levels:

- Guest—read-only permission
- Operator—read permission and write permission to set and change parameters
- Administrator—permissions to assign user rights

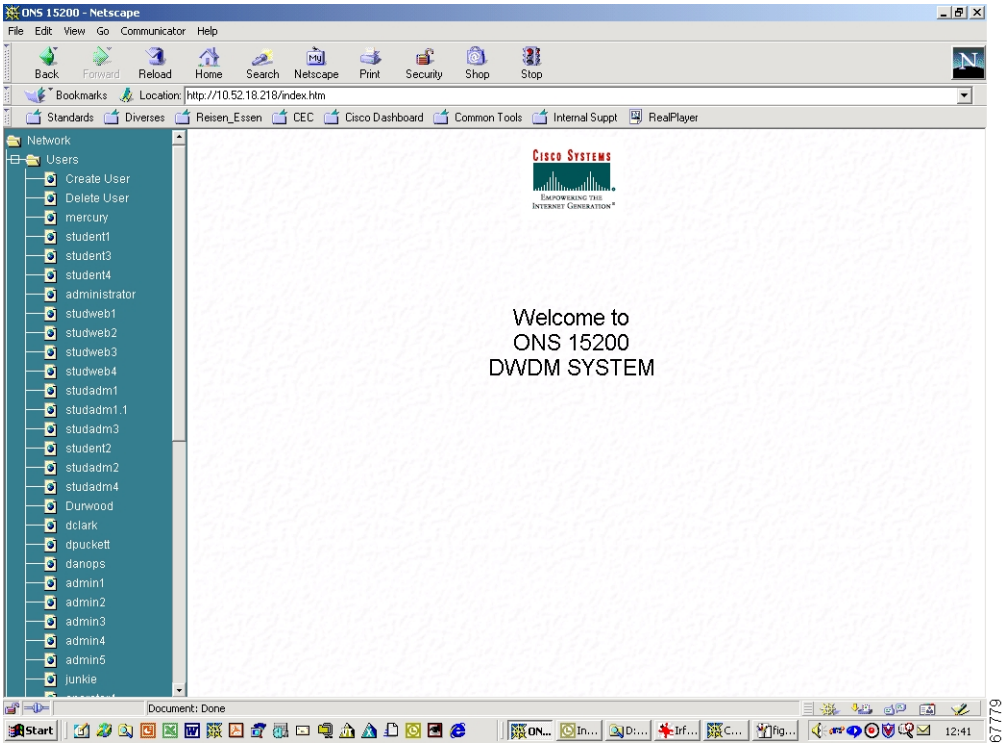
Additionally, an administrator can access certain administrative functions of the Cisco ONS 15200 system. These functions are:

- Changing Inventory data and address information of the Network Control Board (NCB)
- Setting date and time
- Using Simple Network Timing Protocol (SNTP) to synchronize all ONS 15200 network element clocks
- Registering all booting activities in the boot log.

5.1 User Administrative Functions

After logging in, click **Users** in the navigation area to view the screen in Figure 5-1.

Figure 5-1 Administrative functions in the ONS 15200 web interface software program



Procedure: Create a New User

Step 1 Click **Create User** to open the screen in Figure 5-2.

Step 2 Type the new user's ID into the User Id field. The User Id (or user name) can be any string of 6 to 30 characters; valid characters are all the letters a to z, all the letters A to Z, the figures 0 to 9, and the underscore "_" character. The User Id cannot begin with a numeral.

Step 3 Type the password for the new user into the Password field. The Password can be any string of 6 to 30 characters; valid characters are all the letters a to z, all the letters A to Z, the figures 0 to 9, and the underscore "_" character.

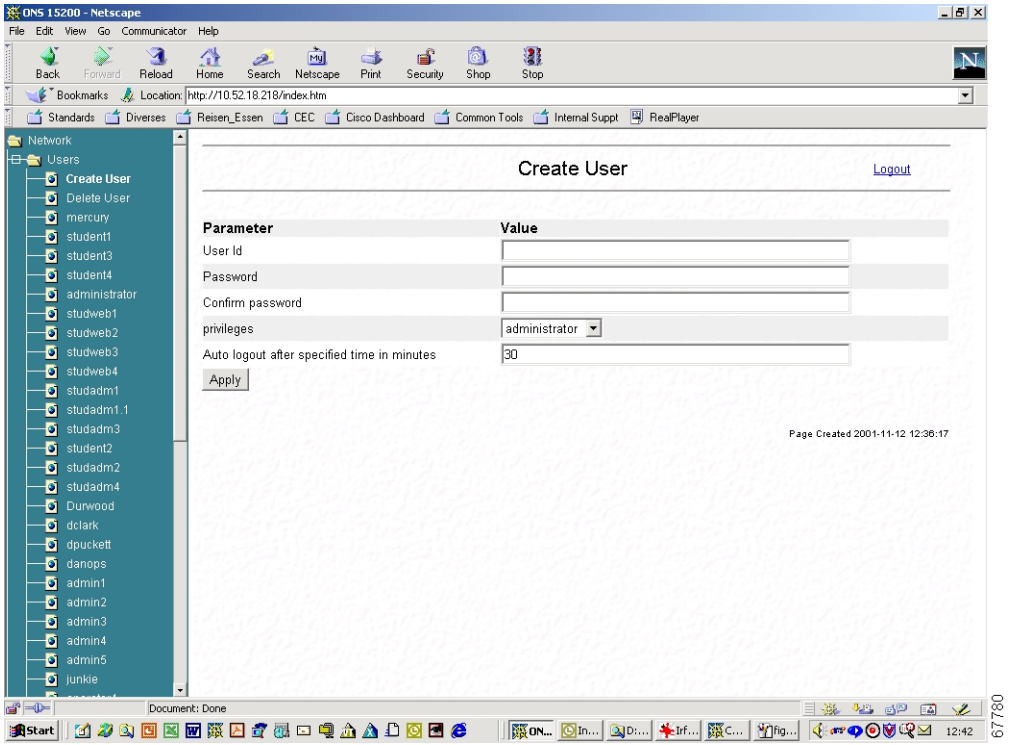
Step 4 Retype the password for the new user in the Confirm Password field.

Step 5 Set the privileges—administrator, operator, or guest— for the new user in the Privileges field.

Step 6 Type the Auto logout time in minutes (the time of inactivity after which a user will automatically be logged out) into the ***Auto logout after specified time in minutes*** field.

Step 7 Click **Apply**.

Figure 5-2 Create User screen in the ONS 15200 web interface software program



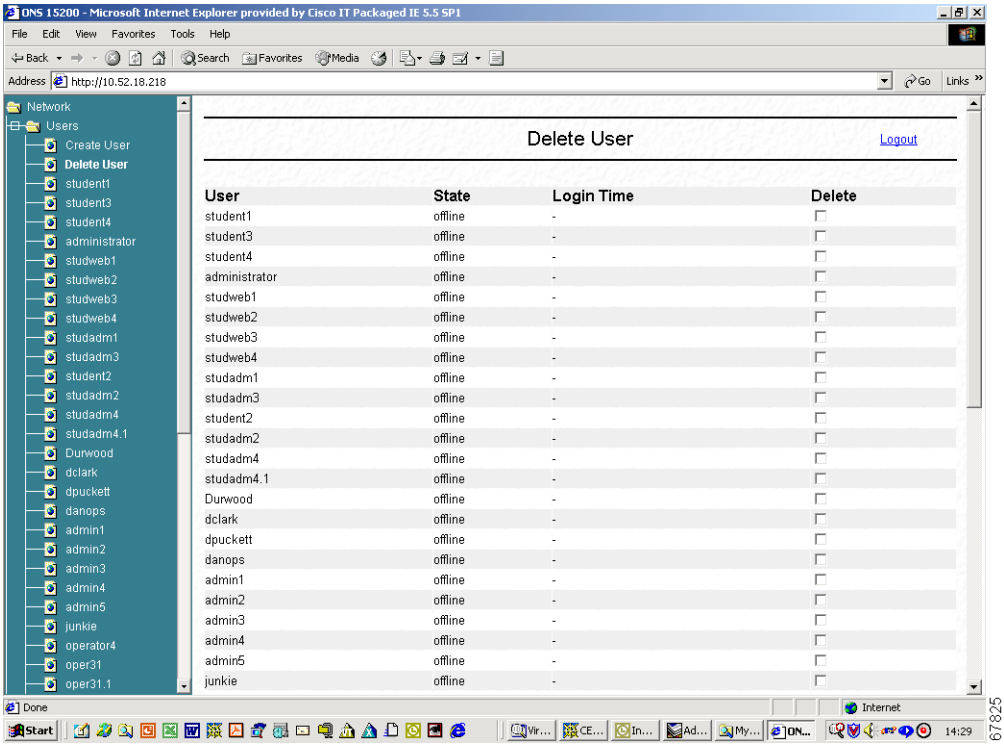
Procedure: Delete an Existing User

Step 1 In the navigation area, click the second line in the available choices, **Delete User**. The screen in Figure 5-3 opens.

Step 2 Click the check box of the user you want to delete.

Step 3 Click **Apply**. The user's access rights to the system are cancelled.

Figure 5-3 Delete User screen in the ONS 15200 web interface software program



Procedure: Edit the Profile of an Existing User

Step 1 Click the user name you want to edit. The screen in Figure 5-4 opens.

Step 2 Change the parameters shown in Table 5-1, as necessary.

Table 5-1 Parameters for an Existing User

Parameter	Possible Values
Privileges	Guest Operator Administrator
State	Online Offline Disabled Suspended
Timeout	Time of inactivity until logout, in minutes
Password	See the “Create a New User” procedure on page 5-2 for password requirements

Figure 5-4 User Properties screen in the ONS 15200 web interface software program

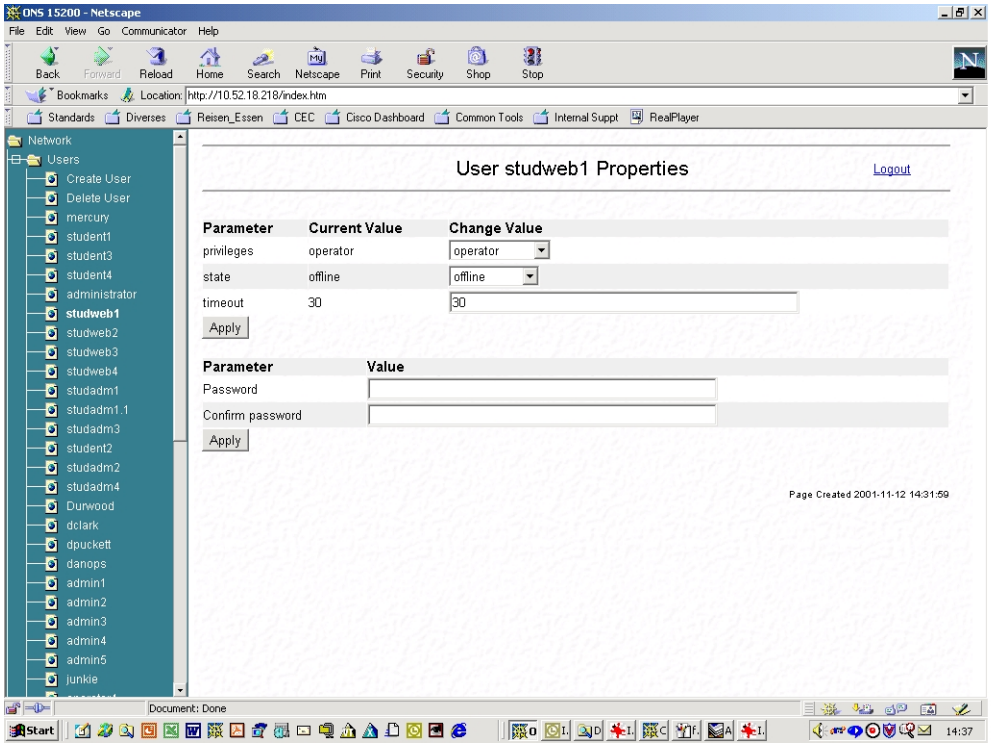
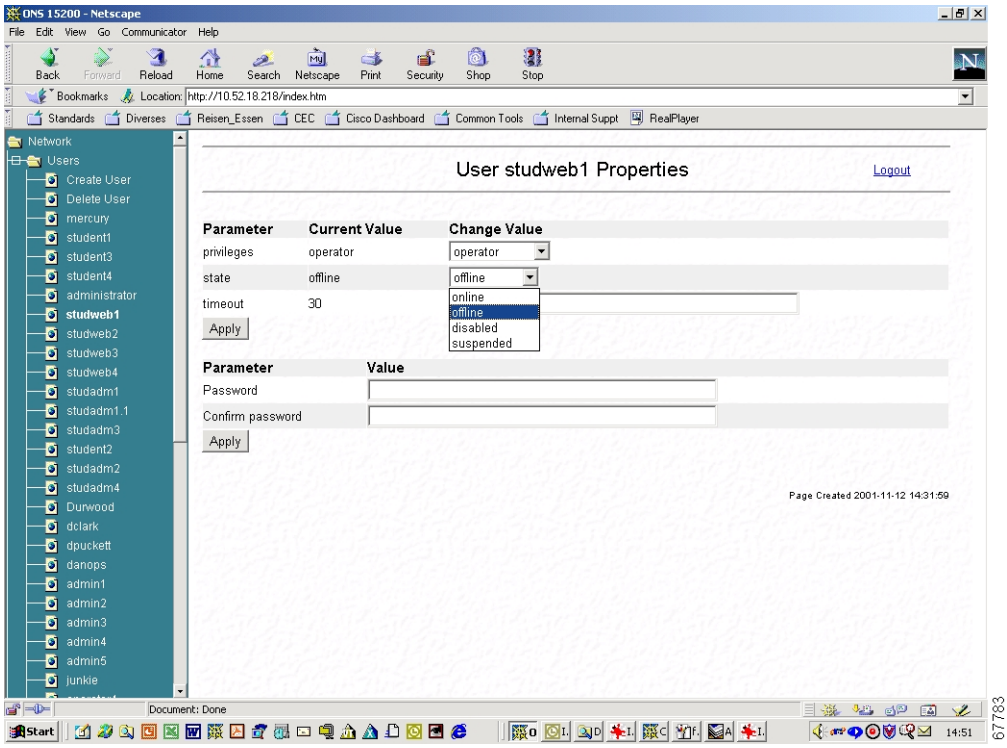


Figure 5-5 shows an example of possible values for the state parameter.

Figure 5-5 Editing the state parameter in the ONS 15200 web interface software program



5.2 System Administrative Functions

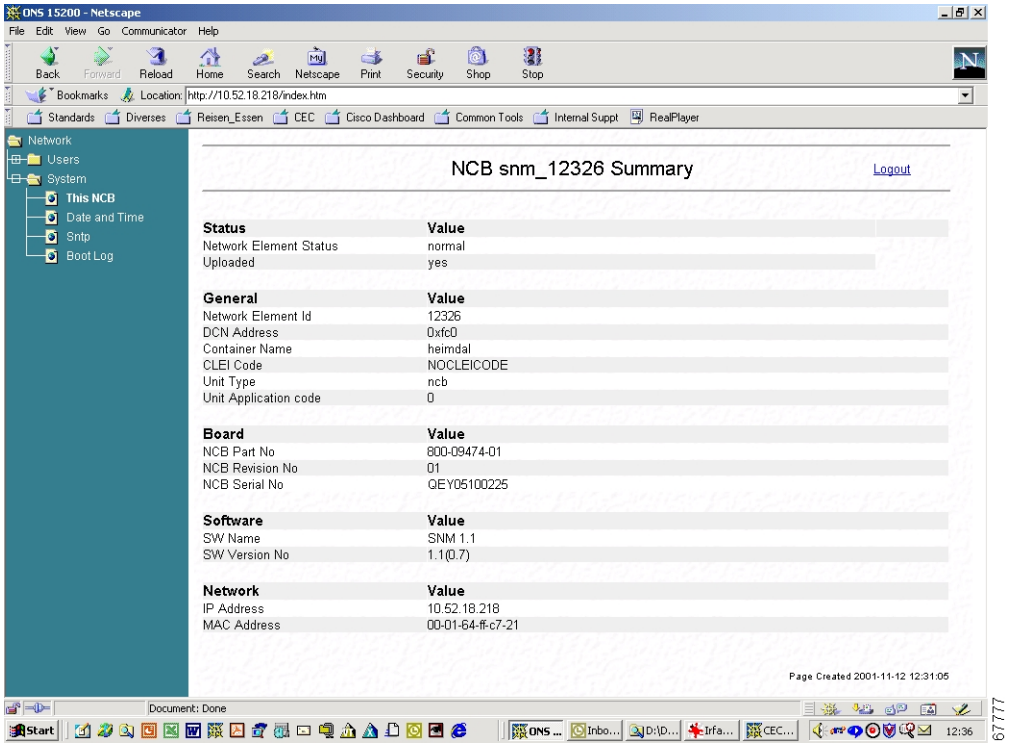
System administrative functions of the Cisco ONS 15200 system include:

- Viewing the address and inventory information of the Network Control Board (NCB)
- Viewing all registered booting activities in the boot log
- Setting or changing the system date and time
- Enabling SNTP to synchronize the NCB clock to an NCB server

5.2.1 Network Control Board

Click **This NCB** in the navigation area to display the screen shown in Figure 5-6. The NCB Summary screen shows the status of the network element and its inventory data, software versions, and addresses.

Figure 5-6 NCB Summary screen in the ONS 15200 web interface software program



Procedure: Set the System Time

Step 1 Click **Date and Time** to open the screen as shown in Figure 5-7. This screen shows the date and time information programmed into the system.

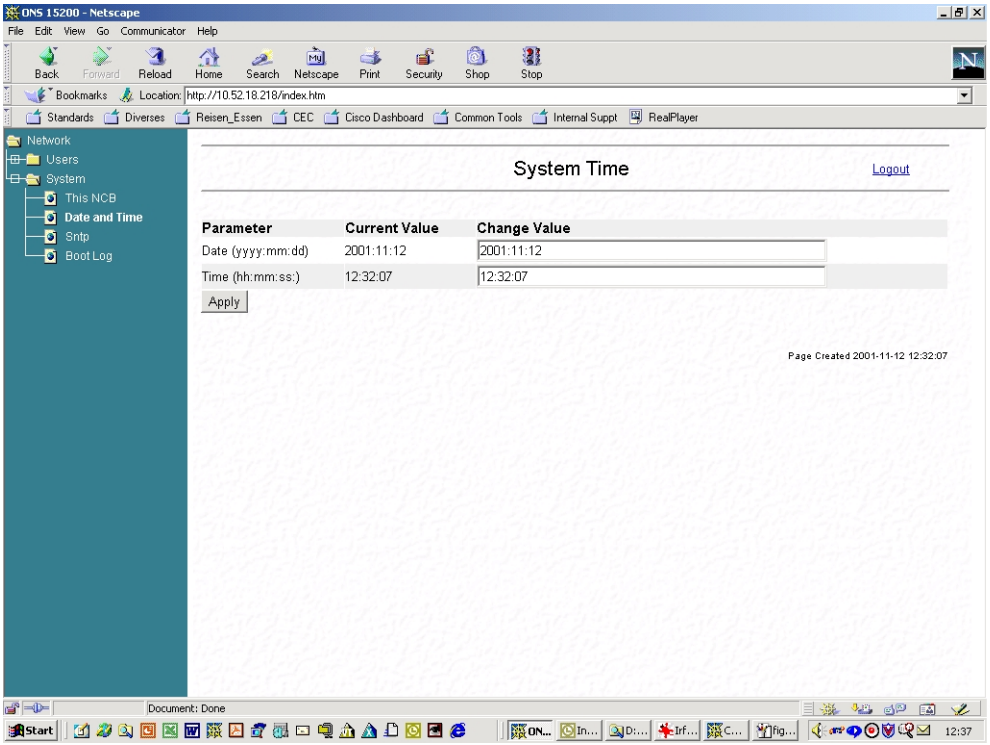
Step 2 To change the date, type the correct date using the format yyyy:mm:dd.

Step 3 To change the time, type the correct time using the format hh:mm:ss.

Step 4 Click **Apply**.

Note If SNTP is configured, manually setting the date and time is obsolete.

Figure 5-7 System Time screen in the ONS 15200 web interface software program



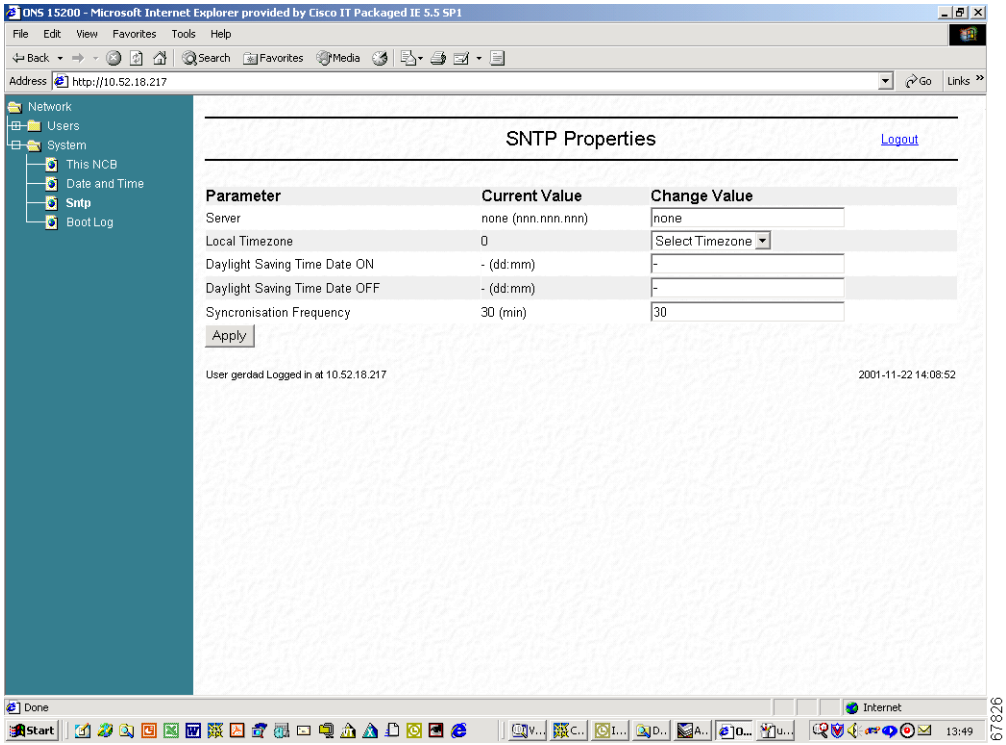
Procedure: Enable Simple Network Timing Protocol

Step 1 Click **Sntp** to open the screen shown in Figure 5-8. The SNTP Properties screen shows the existing values of the SNTP server address, the time zone in hours from UTC (GMT), the dates (day and month, dd:mm) for switching daylight saving time on and off, and the number of minutes between synchronization.

Step 2 To change any value, click the corresponding bar and edit the value.

Step 3 Click **Apply**.

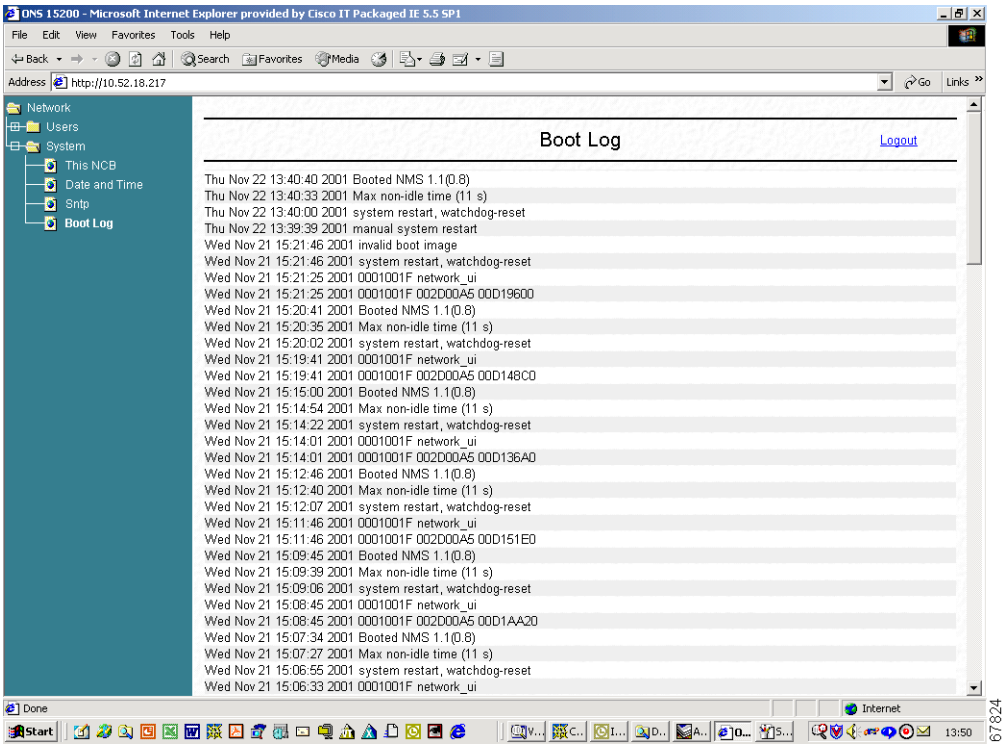
Figure 5-8 SNTP Properties screen in the ONS 15200 web interface software program



5.2.2 Boot Log

Click **Boot Log** to open the screen shown in Figure 5-9. This screen shows the boot activities including restarts and power failures, as well as their associated date and time stamps.

Figure 5-9 Boot Log screen in the ONS 15200 web interface software program



5.3 Exiting the Application

To terminate the session with this Cisco ONS 15200 system, click the logout symbol and close the web browser window.

Note You are logged out just by leaving the web page.

Clicking the browser´s reload button also terminates the session.

Acronyms

The following list defines acronyms and other abbreviations used in this handbook.

Numerics

10BaseT

Standard 10 megabits per second local area network over unshielded twisted pair copper wire

100BaseT

Standard 100 megabits per second ethernet network

2R

Reshaping and regeneration

3R

Reshaping and regeneration and retiming

A

A

A-side

ACO

Alarm Cutoff

ADM

Add-Drop Multiplex

ANSI

American National Standards Institute

APD

Avalanche photo diode

APS

Automatic protection swiching

ATM

Asynchronous transfer module

ATO

Assembled to order

B

B

B-side

BER

Bit error rate

Bits/s

Bits per second (see also bps)

BLSR

Bidirectional line switched ring

BM

Bridge module

BOL

Beginning of life

bps

Bits per second (see also Bits/s)

C

C

Celsius

CAN

Controller area network

CFM

Collector Filter module

CFR

Code of Federal Regulations

CIM

Communication Interface module

CLEI

Common language equipment identifier code

CLIP

Client Layer Interface Port module

CMX

Connection Module X

CMY

Connection Module Y

CPE

Customer premises environment

D

dB

decibel

dBm

decibel referring to 1 milliwatt

DCC

Data communication channel

DCN

Data communication network

DFM

Dummy Filter module

DNAM

Dummy Network Adaptation module

DRAM

Dynamic random access memory

DWDM

Dense wavelength division multiplexing

E

EDFA

Erbium doped fiber amplifier

EIA

Electronic Industries Association

EMC

Electromagnetic compatibility

EMI

Electromagnetic interference

EOL

End of life

ESD

Electrostatic discharge

ETS

European Telecommunications Standard

ETSI

European Telecommunications Standard Institute

F

F

Fahrenheit

FCC

Federal Communications Commission

FDI

Forward Defect Indication (this signal is used to activate the switching to the protection path)

G

GMT

Greenwich Mean Time (historic expression for Universal Time Coordinated UTC)

H

HA

High-Alarm

HAT

High-Alarm Threshold

HDLC

High-level data link control

HFM

Hub Filter module

HTML

Hypertext markup language

HW

High-Warning

HWT

High-Warning Threshold

I

ID

Identifier

IEC

International Electrotechnical Commission

IEEE

Institute of Electrical and Electronics Engineers

I/O

Input/Output

IP

Internet protocol

IrDA

Infrared Data Association™

ITU

International Telecommunications Union

ITU-T

International Telecommunications Union, Telecommunication standards sector

L

LA

Low-Alarm

LAN

Local area network

LAT

Low-Alarm Threshold

LCD

Liquid crystal display

LM

Line module

LOC

Loss of channel (i.e. in case of protected operation: failure on both working and protection paths)

LW

Low-Warning

LWT

Low-Warning Threshold

M

Mbps

Megabits per second

MCU

Multichannel Unit

MHz

Megahertz

N

NAM

Network adaptation module

NCB

Network Control Board

NE

Network element

NEBS

Network Equipment Building Standard

Neid

Network Element Identifier

NFPA

National Fire Protection Association

NMS

Network management system

NVRAM

Non-volatile random access memory

O

OC

Optical carrier

OC-3

Optical carrier, level 3 (same bit rate as STM-1)

OC-12

Optical carrier, level 12 (same bit rate as STM-4)

OC-48

Optical carrier, level 48 (same bit rate as STM-16)

ONS

Optical networking system

P

P

Protection

PC

Personal Computer

PIN-Diode

P-intrinsic-N diode (optical detector diode)

PM

Performance Monitor

Q

QPP

Qeyton proprietary protocol

R

RAM

Random access memory

RJ-12

Registered jack #12 (6-pin)

RJ-45

Registered jack #45 (8-pin)

RS-232

Recommended standard #232 (ANSI electrical interface for serial communication)

Rx

Receive

S

SCU

Single-Channel Unit

SDH

Synchronous digital hierarchy

SMF

Single-mode fiber

SNM

Sub-Network Manager

SNMP

Simple Network Management Protocol

SNTP

Simple Network Timing Protocol

SONET

Synchronous optical network

STM

Synchronous transport module

STM-1

Synchronous transport module, level 1 (same bit rate as OC-3)

STM-4

Synchronous transport module, level 4 (same bit rate as OC-12)

STM-16

Synchronous transport module, level 16 (same bit rate as OC-48)

T

TAC

Technical Assistance Center

TCP/IP

Transmission control protocol / Internet protocol

THz

Terahertz

TIA

Telecommunication Industry Association

TM

Termination module

TMN

Telecommunication management network

Tx

Transmit

U

UL

Underwriters´ Laboratories

URL

Uniform Resource Locator (Internet address, including specific document location)

UTC

Universal Time Coordinated (formerly known as Greenwich Mean Time GMT)

W

W

Watts

WAN

Wide area network

WWW

World Wide Web

X

XC

Cross connect